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PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page for STN Seminar Schedule - N. America
NEWS 2	NOV 21	CAS patent coverage to include exemplified prophetic substances identified in English-, French-, German-, and Japanese-language basic patents from 2004-present
NEWS 3	NOV 26	MARPAT enhanced with FSORT command
NEWS 4	NOV 26	CHEMSAFE now available on STN Easy
NEWS 5	NOV 26	Two new SET commands increase convenience of STN searching
NEWS 6	DEC 01	ChemPort single article sales feature unavailable
NEWS 7	DEC 12	GBFULL now offers single source for full-text coverage of complete UK patent families
NEWS 8	DEC 17	Fifty-one pharmaceutical ingredients added to PS
NEWS 9	JAN 06	The retention policy for unread STNmail messages will change in 2009 for STN-Columbus and STN-Tokyo
NEWS 10	JAN 07	WPIDS, WPINDEX, and WPIX enhanced Japanese Patent Classification Data
NEWS 11	FEB 02	Simultaneous left and right truncation (SLART) added for CERAB, COMPUAB, ELCOM, and SOLIDSTATE
NEWS 12	FEB 02	GENBANK enhanced with SET PLURALS and SET SPELLING
NEWS 13	FEB 06	Patent sequence location (PSL) data added to USGENE
NEWS 14	FEB 10	COMPENDEX reloaded and enhanced
NEWS 15	FEB 11	WTEXTILES reloaded and enhanced
NEWS 16	FEB 19	New patent-examiner citations in 300,000 CA/CAplus patent records provide insights into related prior art
NEWS 17	FEB 19	Increase the precision of your patent queries -- use terms from the IPC Thesaurus, Version 2009.01
NEWS 18	FEB 23	Several formats for image display and print options discontinued in USPATFULL and USPAT2
NEWS 19	FEB 23	MEDLINE now offers more precise author group fields and 2009 MeSH terms
NEWS 20	FEB 23	TOXCENTER updates mirror those of MEDLINE - more precise author group fields and 2009 MeSH terms
NEWS 21	FEB 23	Three million new patent records blast AEROSPACE into STN patent clusters
NEWS 22	FEB 25	USGENE enhanced with patent family and legal status display data from INPADOCDB
NEWS 23	MAR 06	INPADOCDB and INPAFAMDB enhanced with new display formats
NEWS 24	MAR 11	EPFULL backfile enhanced with additional full-text applications and grants
NEWS 25	MAR 11	ESBIOBASE reloaded and enhanced
NEWS 26	MAR 20	CAS databases on STN enhanced with new super role for nanomaterial substances
NEWS 27	MAR 23	CA/CAplus enhanced with more than 250,000 patent equivalents from China

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 NEWS EXPRESS JUNE 27 08 CURRENT WINDOWS VERSION IS V8.3,
              AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.

 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS LOGIN    Welcome Banner and News Items
 NEWS IPC8     For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that
specific topic.

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* * * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 15:38:12 ON 23 MAR 2009

=> FILE REG
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.22       0.22

FILE 'REGISTRY' ENTERED AT 15:38:26 ON 23 MAR 2009
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES:   22 MAR 2009  HIGHEST RN 1125392-64-4
DICTIONARY FILE UPDATES:  22 MAR 2009  HIGHEST RN 1125392-64-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

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  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

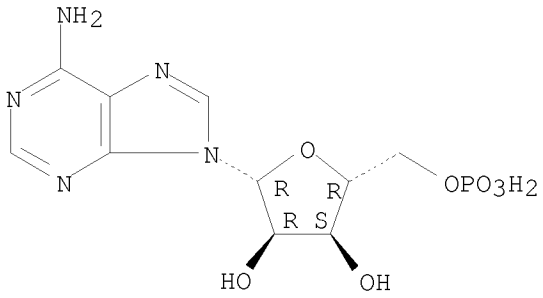
=> S adenosine monophosphate/CN
L1            1 ADENOSINE MONOPHOSPHATE/CN

=> D L1

L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   61-19-8  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   5'-Adenylic acid  (CA INDEX NAME)
OTHER NAMES:
CN   5'-AMP
```

CN Adenosine 5'-(dihydrogen phosphate)
CN Adenosine 5'-monophosphate
CN Adenosine 5'-phosphate
CN Adenosine 5'-phosphoric acid
CN Adenosine monophosphate
CN Adenosine phosphate
CN Adenosine-5'-monophosphoric acid
CN Adenosine-5-monophosphoric acid
CN Adenovite
CN Adenylic acid
CN AMP
CN AMP (nucleotide)
CN Cardiomone
CN Lycedan
CN My-B-Den
CN NSC 20264
CN Phosaden
CN Phosphaden
CN Phosphentaside
FS STEREOSEARCH
DR 697214-87-2, 162756-82-3, 53624-78-5, 67583-85-1, 47286-65-7, 47287-97-8
MF C10 H14 N5 O7 P
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DETHERM*, DRUGU, EMBASE, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, USAN, USPAT2, USPATFULL, USPATOLD
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

19154 REFERENCES IN FILE CA (1907 TO DATE)
629 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
19173 REFERENCES IN FILE CAPLUS (1907 TO DATE)

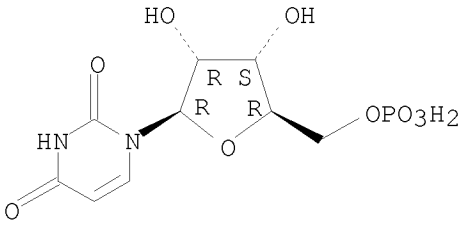
=> S uridine monophosphate/CN
L2 1 URIDINE MONOPHOSPHATE/CN

=> D L2

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN
RN 58-97-9 REGISTRY
ED Entered STN: 16 Nov 1984

CN   5'-Uridylic acid (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Uridylic acid (6CI)
OTHER NAMES:
CN   5'-UMP
CN   UMP
CN   UMP (nucleic acid)
CN   Uridine 5'-(dihydrogen phosphate)
CN   Uridine 5'-monophosphate
CN   Uridine 5'-phosphate
CN   Uridine 5'-phosphoric acid
CN   Uridine monophosphate
CN   Uridine phosphate
CN   Uridine, 5'-(dihydrogen phosphate)
CN   Uridine, mono(dihydrogen phosphate) (ester)
FS   STEREOSEARCH
DR   53624-79-6, 81795-92-8
MF   C9 H13 N2 O9 P
CI   COM
LC   STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CABA,
       CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU,
       DRUGU, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*,
       NAPRALERT, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2,
       USPATFULL, USPATOLD
         (*File contains numerically searchable property data)
     Other Sources: EINECS**, NDSL**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

            3943 REFERENCES IN FILE CA (1907 TO DATE)
             184 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
            3948 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> FILE MEDICINE
FILE 'DRUGMONOG' ACCESS NOT AUTHORIZED
COST IN U.S. DOLLARS   SINCE FILE   TOTAL
                                                         ENTRY   SESSION
FULL ESTIMATED COST   16.24   16.46

FILE 'ADISCTI' ENTERED AT 15:40:10 ON 23 MAR 2009
COPYRIGHT (C) 2009 Adis Data Information BV

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FILE 'ADISNEWS' ENTERED AT 15:40:10 ON 23 MAR 2009
COPYRIGHT (C) 2009 Adis Data Information BV

FILE 'BIOSIS' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'BIOTECHNO' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'CAPLUS' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'DDFB' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'DDFU' ACCESS NOT AUTHORIZED

FILE 'DGENE' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'DISSABS' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'DRUGB' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'DRUGMONOG2' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'DRUGU' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'EMBAL' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'EMBASE' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'ESBIOBASE' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'IFIPAT' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'IMSDRUGNEWS' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'IMSPRODUCT' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'IPA' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'KOSMET' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'LIFESCI' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'MEDLINE' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'NAPRALERT' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'NLDB' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'NUTRACEUT' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'PASCAL' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'PCTGEN' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'PHARMAML' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'PHIN' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'SCISEARCH' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'TOXCENTER' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'USGENE' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'USPATFULL' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'USPATOLD' ENTERED AT 15:40:10 ON 23 MAR 2009

FILE 'USPAT2' ENTERED AT 15:40:10 ON 23 MAR 2009

=> S (58-97-9/RN or (uridine monophosphate)/CN) and (skin or topical or
dermatological)/ab
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'CN' IS NOT A VALID FIELD CODE
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NUMERIC VALUE NOT VALID '58-97-9'
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L3   21 (58-97-9/RN OR (URIDINE MONOPHOSPHATE)/CN) AND (SKIN OR TOPICAL
                OR DERMATOLOGICAL)/AB

=> DUP REM L3
DUPLICATE IS NOT AVAILABLE IN 'ADISINSIGHT, ADISNEWS, DGENE, DRUGMONOG2,
IMSPRODUCT, KOSMET, NUTRACEUT, PCTGEN, PHARMAML, USGENE'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE

PROCESSING COMPLETED FOR L3
L4 19 DUP REM L3 (2 DUPLICATES REMOVED)

=> D L4 IBIB ABS

L4 ANSWER 1 OF 19 USPATFULL on STN
ACCESSION NUMBER: 2007:155154 USPATFULL
TITLE: Composition for promoting collagen production
INVENTOR(S): Shinohara, Shigeo, Kyoto, JAPAN
Kawamura, Mitsuaki, Kyoto, JAPAN
PATENT ASSIGNEE(S): OTSUKA PHARMACEUTICAL CO., LTD., Tokyo, JAPAN, 101-535
(non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20070135374	A1	20070614	
APPLICATION INFO.:	US 2004-574696	A1	20041008	(10)
	WO 2004-JP15298		20041008	
			20061204	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2003-349156	20031008

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP, 901 NEW YORK AVENUE, NW, WASHINGTON, DC, 20001-4413, US
NUMBER OF CLAIMS: 24
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Page(s)
LINE COUNT: 698
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides a composition for promoting collagen production, and more specifically, provides a composition capable of promoting collagen production in human dermis. Further, the invention provides a method for promoting collagen production. The invention provides a composition for promoting collagen production containing a purine nucleic acid-related substance as an active ingredient as well as a composition for promoting collagen production containing a purine nucleic acid-related substance and a pyrimidine nucleic acid-related substance. The method for promoting collagen production of the invention comprises applying a purine nucleic acid-related substance alone or in combination with a pyrimidine nucleic acid-related substance to the skin.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> D 2-19 IBIB ABS

L4 ANSWER 2 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:346825 CAPLUS
DOCUMENT NUMBER: 142:378937
TITLE: Nucleic acids for promoting collagen production
INVENTOR(S): Shinohara, Shigeo; Kawamura, Mitsuaki
PATENT ASSIGNEE(S): Otsuka Pharmaceutical Co., Ltd., Japan
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005034902	A1	20050421	WO 2004-JP15298	20041008
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004279248	A1	20050421	AU 2004-279248	20041008
CA 2541584	A1	20050421	CA 2004-2541584	20041008
EP 1671618	A1	20060621	EP 2004-792515	20041008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1867316	A	20061122	CN 2004-80029737	20041008
BR 2004015229	A	20061205	BR 2004-15229	20041008
IN 2006DN01671	A	20070810	IN 2006-DN1671	20060328
KR 2006132817	A	20061222	KR 2006-706844	20060407
US 20070135374	A1	20070614	US 2006-574696	20061204
PRIORITY APPLN. INFO.:			JP 2003-349156 A	20031008
			WO 2004-JP15298 W	20041008

AB It is intended to provide a composition for promoting collagen production by which the production of collagen, in particular, the production of collagen in human dermis can be promoted. Disclosed are a composition for promoting collagen production which contains as the active ingredient a purine-type nucleic acid-related substance; a composition for promoting collagen production which contains a purine-type nucleic acid-related substance and a pyrimidine-type nucleic acid-related substance; and a method of promoting collagen production characterized by comprising applying a purine-type nucleic acid-related substance, or a combination of a purine-type nucleic acid-related substance with a pyrimidine-type nucleic acid-related substance to the skin.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 19 USPATFULL on STN

ACCESSION NUMBER: 2005:255579 USPATFULL

TITLE: Composition for cell proliferation

INVENTOR(S): Kawamura, Mitsuaki, Kyoto-shi, JAPAN
Shinohara, Shigeo, Kyoto-shi, JAPAN

PATENT ASSIGNEE(S): OTSUKA PHARMACEUTICAL CO., LTD., Tokyo, JAPAN (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20050222076	A1	20051006	
APPLICATION INFO.:	US 2003-510738	A1	20030403	(10)
	WO 2003-JP4247		20030403	
			20041012	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2002-106300	20020409

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP, 901 NEW YORK AVENUE, NW, WASHINGTON, DC, 20001-4413, US
NUMBER OF CLAIMS: 38
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Page(s)
LINE COUNT: 906
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a method for effectively exerting a cell proliferation promoting effect of a purine nucleic acid-related substance. The present invention provides a composition for cell proliferation containing a purine nucleic acid-related substance and a pyrimidine nucleic acid-related substance. Further, the present invention provides a method for potentiating the cell proliferation promoting effect of the purine nucleic acid-related substance by using the purine nucleic acid-related substance in combination with the pyrimidine nucleic acid-related substance. Still further, the present invention provides a method for promoting cell proliferation, where the method comprising applying purine nucleic acid-related substance in combination with the pyrimidine nucleic acid-related substance to the skin or mucosa.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2004:529216 CAPLUS
DOCUMENT NUMBER: 141:93994
TITLE: Cosmetic compositions comprising an a peptide or a protein and a nucleotide, polynucleotide or nucleic acid
INVENTOR(S): Thorel, Jean Noel; Redziniak, Cerard
PATENT ASSIGNEE(S): Fr.
SOURCE: Fr. Demande, 14 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2849376	A1	20040702	FR 2002-16873	20021230
FR 2849376	B1	20070713		
CA 2528101	A1	20040722	CA 2003-2528101	20031223
WO 2004060393	A2	20040722	WO 2003-FR3883	20031223
WO 2004060393	A3	20040916		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003303607	A1	20040729	AU 2003-303607	20031223
EP 1581177	A2	20051005	EP 2003-814486	20031223
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1731973	A	20060208	CN 2003-80107877	20031223
JP 2006513231	T	20060420	JP 2004-564302	20031223
US 20060029563	A1	20060209	US 2005-537816	20050607

PRIORITY APPLN. INFO.: FR 2002-16871 A 20021230
FR 2002-16872 A 20021230
FR 2002-16873 A 20021230
FR 2002-16874 A 20021230
WO 2003-FR3883 W 20031223

AB A cosmetic and/or dermatol. comprises an active complex of at least a peptide and/or a protein chosen from the group of, e.g., algae peptides, other peptides, Elafin, and a nucleotide or DNA. Thus, a formulation contained capric/caprylic triglyceride 10-15.00, peptide (KTTKS) 0.2-5x10-5, nucleotide 1-4x10-5, glyceryl dioleate 1-4.00, xanthan gum 0.1-1.00, NaOH 1-5, Penonip 0.50, perfume qs, and water qs to 100%.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2004:529215 CAPLUS
DOCUMENT NUMBER: 141:93993
TITLE: Cosmetic compositions containing peptides or proteins for the treatment of photoinduced skin aging
INVENTOR(S): Thorel, Jean Noel; Redziniak, Cerard
PATENT ASSIGNEE(S): Fr.
SOURCE: Fr. Demande, 15 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2849375	A1	20040702	FR 2002-16871	20021230
FR 2849375	B1	20061020		
CA 2528101	A1	20040722	CA 2003-2528101	20031223
WO 2004060393	A2	20040722	WO 2003-FR3883	20031223
WO 2004060393	A3	20040916		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003303607	A1	20040729	AU 2003-303607	20031223
EP 1581177	A2	20051005	EP 2003-814486	20031223
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1731973	A	20060208	CN 2003-80107877	20031223
JP 2006513231	T	20060420	JP 2004-564302	20031223
US 20060029563	A1	20060209	US 2005-537816	20050607

PRIORITY APPLN. INFO.: FR 2002-16871 A 20021230
FR 2002-16872 A 20021230
FR 2002-16873 A 20021230
FR 2002-16874 A 20021230
WO 2003-FR3883 W 20031223

AB A cosmetic and/or dermatol. comprises an active complex, acting in a synergistic manner, of at least a peptide and/or a protein chosen from the group of, e.g., superoxide dismutase, peptides, DNA, and UDP-glucose. Thus, a gel contained Brij-721 2.4, Volpo S72 2.6, Prostearyl-15 8.0, beeswax 0.5, Abil ZP2434 3.0, propylene glycol 3.0,

Carbopol-941 0.25, triethanolamine 0.25, superoxide dismutase 0.00025, Elafin 0.00005, and DNA 1.00, and water qs to 100%.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:818240 CAPLUS
DOCUMENT NUMBER: 139:296572
TITLE: Composition containing purine an pyrimidine nucleic acid-related substances for promoting cell proliferation
INVENTOR(S): Kawamura, Mitsuaki; Shinohara, Shigeo
PATENT ASSIGNEE(S): Otsuka Pharmaceutical Co., Ltd., Japan
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003084485	A1	20031016	WO 2003-JP4247	20030403
W: AU, BR, CA, CN, ID, IN, JP, KR, PH, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
CA 2480080	A1	20031016	CA 2003-2480080	20030403
AU 2003220857	A1	20031020	AU 2003-220857	20030403
AU 2003220857	B2	20090129		
EP 1498101	A1	20050119	EP 2003-715748	20030403
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
BR 2003009127	A	20050201	BR 2003-9127	20030403
CN 1646078	A	20050727	CN 2003-808030	20030403
TW 260225	B	20060821	TW 2003-92108012	20030408
IN 2004DN02911	A	20070525	IN 2004-DN2911	20040928
US 20050222076	A1	20051006	US 2004-510738	20041012
PRIORITY APPLN. INFO.:			JP 2002-106300 A	20020409
			WO 2003-JP4247 W	20030403

AB It is intended to provide a method of effectively exerting the cell proliferation promoting effect of a purine nucleic acid-related substance. Namely, disclosed are a composition for cell proliferation characterized by containing a purine nucleic acid-related substance and a pyrimidine nucleic acid-related substance; a method of potentiating the cell proliferation promoting effect of a purine nucleic acid-related substance characterized by using a combination of the purine nucleic acid-related substance with a pyrimidine nucleic acid-related substance; and a method of promoting cell proliferation characterized by using a combination of a purine nucleic acid-related substance with a pyrimidine nucleic acid-related substance and applying the same to the skin or mucosa. The effect of adenosine monophosphate disodium salt in combination with uridine monophosphate disodium salt on cultured human keratinocyte proliferation was examined A cosmetic lotion containing adenosine monophosphate disodium salt
3, uridine monophosphate disodium salt 0.1, polyoxyethylene hydrogenated castor oil 0.7, ethanol 5, glycerin 2, preservative 0.2, fragrance/pH adjuster q.s., and water balance to 100 % was formulated.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:423621 CAPLUS

DOCUMENT NUMBER: 133:292904
TITLE: Generation and photosensitization properties of the oxidized radical of riboflavin: a laser flash photolysis study
AUTHOR(S): Han, Zhen-Hui; Lu, Chang-Yuan; Wang, Wen-Feng; Lin, Wei-Zhen; Yao, Si-De; Lin, Nian-Yun
CORPORATE SOURCE: Laboratory of Radiation Chemistry, Shanghai Institute of Nuclear Research, Academia Sinica, Shanghai, 201800, Peop. Rep. China
SOURCE: JAERI-Conf (2000), 2000-001(JCBSRC '99, the 8th Japan-China Bilateral Symposium on Radiation Chemistry, 1999), 135-139
CODEN: JECNEC
PUBLISHER: Japan Atomic Energy Research Institute
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Riboflavin (RF) is an important endogenous cellular photosensitizer in vivo and in vitro. Photoexcitation of riboflavin may potentially occur in the organs and tissues permeable to light, such as the skin or eye, and result in DNA and other cell-matrix damage causing inflammation and accelerating aging. The possibility of DNA damage resulting from an electron transfer reaction involving the oxidized radical of riboflavin has prompted us to generate the intermediate using both photoionization and photooxidn. techniques. The results reported herein suggested that electron transfer caused by RF•+/RF(-H)• may be of wider importance in photobiol. and photochem. of flavin.
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 1998:527195 CAPLUS
DOCUMENT NUMBER: 129:144880
ORIGINAL REFERENCE NO.: 129:29424a
TITLE: P2 receptor agonists, antagonists and modulators of endogenous ATP release, and therapeutic use
INVENTOR(S): Gallagher, James Anthony; Bowler, Wayne Barry
PATENT ASSIGNEE(S): The University of Liverpool, UK
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9832429	A2	19980730	WO 1998-GB205	19980123
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9856747	A	19980818	AU 1998-56747	19980123
PRIORITY APPLN. INFO.:			GB 1997-1374 A	19970123
			WO 1998-GB205 W	19980123

AB The invention relates to P2 agonists and antagonists or a compound which will stimulate or inhibit endogenous ATP (ATP) production, and more particularly to novel medical uses for same. More particularly still it relates to treating skin conditions characterized by

hyperproliferation of keratinocytes, including for example, keloid formation, dermatitis and psoriasis or enhancing wound healing. The invention provides the use of an agonist or antagonist of a type P2-receptor or a compound which will stimulate or inhibit ATP (ATP) production for the manufacture of a medicament for treating wounds or skin conditions characterized by hyperproliferation of keratinocytes or acanthosis. It also provides a pharmaceutical composition comprising a growth factor, a pharmaceutically acceptable carrier and either an agonist of a P2Y receptor or a compound which will stimulate ATP (ATP) production

L4 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1990:617811 CAPLUS
DOCUMENT NUMBER: 113:217811
ORIGINAL REFERENCE NO.: 113:36689a,36692a
TITLE: Skin-protectant compositions comprising nucleic acids, nucleotides and nucleosides
INVENTOR(S): Pauly, Georges; Pauly, Gilles; Pauly, Marc
PATENT ASSIGNEE(S): Laboratoires Serobiologiques S. A., Fr.
SOURCE: Fr. Demande, 53 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2634374	A1	19900126	FR 1988-9747	19880719
FR 2634374	B1	19931015		
WO 9000894	A1	19900208	WO 1989-FR377	19890717
W: CH, DE, GB, LU, NL, US				
NL 8920746	A	19900601	NL 1989-20746	19890717
DE 3990820	T0	19900719	DE 1989-3990820	19890717
DE 3990820	C2	20010215		
CH 682453	A5	19930930	CH 1990-1099	19890717
GB 2233557	A	19910116	GB 1990-6119	19900319
GB 2233557	B	19930331		

PRIORITY APPLN. INFO.: FR 1988-9747 A 19880719
WO 1989-FR377 A 19890717

AB A photoprotectant and cytophotoprotectant composition for the skin comprises nucleic acids, nucleotides or their salts, and nucleosides. The salts are with inorg. or organic bases and with basic amino acids or peptides. The compns. protect the skin cells, especially the Langerhans cells against the noxious effects of light. The compns. may also comprise amino acids and/or protein hydrolyzates. A powdery composition comprised histidine ribonucleate 31.65, cytidine-thymidine-uridine mixture 16.65, histidine-HCl 18.33, and anhydrous collagen hydrolyzate 33.37 (no units). RNA K salt (1%) protected human Langerhans cells, in vitro, against the noxious effect of UV light, as shown by the preservation of HLA-DR+ specific sites.

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1990:402641 CAPLUS
DOCUMENT NUMBER: 113:2641
ORIGINAL REFERENCE NO.: 113:539a,542a
TITLE: Studies on chemical protectors against radiation. XXVIII. Protective effect of nucleic acid constituents on radiation damage induced by x-irradiation
AUTHOR(S): Sato, Yushi; Ohta, Setsuko; Shinoda, Masato
CORPORATE SOURCE: Fac. Pharm. Sci., Hoshi Univ., Tokyo, 142, Japan

SOURCE: Yakugaku Zasshi (1990), 110(3), 210-17
CODEN: YKKZAJ; ISSN: 0031-6903
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB The effects of various nucleic acid constituents, i.e., bases, nucleosides, and nucleotides on lethality and skin injury induced by soft x-irradiation were studied in ICR mice. The survival effect was determined by use of survival days after irradiation of LD of 70 kVp, 2100 R
and the protective effect on skin injury was determined by use of degrees of skin injury after 30 kVp, 1100 R soft x-irradiation The survival effect was observed by a single injection of inosine at 120, 60, and 5 min before irradiation and by injection 3 times after irradiation The other nucleic acid constituents had no effect on survival. The protective effect for skin injury was observed by a single injection of adenosine, guanosine, inosine, 5'-AMP, 5'-GMP, and 5'-IMP before irradiation The protective effect for skin injury by injection 3 times before irradiation was shown by adenosine, inosine, 5'-AMP, and 5'-IMP. A relationship between radical scavenging activities and the protective effect from radiation by various nucleosides was not observed

L4 ANSWER 11 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1979:68662 CAPLUS
DOCUMENT NUMBER: 90:68662
ORIGINAL REFERENCE NO.: 90:10831a,10834a
TITLE: Simultaneous analysis of free nucleoside mono- and polyphosphates in tissue by high-pressure liquid chromatography
AUTHOR(S): Mizobuchi, Hiroshi; Takei, Kazukata; Ogura, Ryohei
CORPORATE SOURCE: Dep. Med. Biochem., Kurume Univ. Sch. Med., Kurume, Japan
SOURCE: Kurume Medical Journal (1978), 25(3), 175-81
CODEN: KRMJAC; ISSN: 0023-5679
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Nucleoside mono- and polyphosphates were determined in skin and liver of guinea pigs by high-pressure liquid chromatog. on a Li Chrosorb-NH2 column. Free nucleotides were extracted using a MeOH-EtOH mixture The nucleotides eluted in the order cytosine, uridine, adenine, and guanine, except for the monophosphates, in which AMP eluted before UMP. Anal. time was <40 min.

L4 ANSWER 12 OF 19 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 2
ACCESSION NUMBER: 1979:150343 BIOSIS
DOCUMENT NUMBER: PREV197967030343; BA67:30343
TITLE: RETENTION IMPROVEMENT BY TOPICAL APPLICATION OF UMP INTO DIFFERENT BRAIN AREAS.
AUTHOR(S): OTT T [Reprint author]; GRECKSCH G; MATTHIES H
CORPORATE SOURCE: INST PHARMACOL TOXICOL, MED ACAD, 301 MAGDEBURG, E GER
SOURCE: Medical Biology (Helsinki), (1978) Vol. 56, No. 3, pp. 133-137.
CODEN: MDBYAS. ISSN: 0302-2137.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
AB The effect of UMP on the consolidation of a brightness-discrimination reaction after topical application of this RNA precursor into the hippocampus, the neocortex or the mesencephalic reticular formation (MRF) was examined. Thirty minutes before the rats started their training in a Y-chamber, UMP was injected into each animal through cannula implanted into the particular brain area. When injected into hippocampus

or MRF, UMP exerted no influence on acquisition, but after epidural UMP injection an impairment of acquisition was observed. After intrahippocampal or epidural UMP application the retention test conducted 48 h after training showed a significant improvement in retention performance, while UMP injection into MRF showed no influence on retention. The retention-improving effect of UMP was probably not induced by activation of ascending neuronal systems.

L4 ANSWER 13 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1976:403733 CAPLUS
DOCUMENT NUMBER: 85:3733
ORIGINAL REFERENCE NO.: 85:611a,614a
TITLE: Nucleic acid-reactive antibodies of restricted heterogeneity
AUTHOR(S): Cameron, Deborah J.; Erlanger, Bernard F.
CORPORATE SOURCE: Coll. Physicians Surg., Columbia Univ., New York, NY, USA
SOURCE: Immunochemistry (1976), 13(3), 263-9
CODEN: IMCHAZ; ISSN: 0019-2791
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Antibodies of the IgG-type and of restricted heterogeneity were isolated from 3 rabbits immunized with (AMP)2-gramicidin S. Antibody banding patterns were constant in 1 rabbit but varied after each boost in the other 2 rabbits. These antibodies, which reacted with DNA and RNA, were highly specific for AMP (Ka >106M-1) but could bind other ligands, suggesting antibody combining sites are multispecific. Crossreactivity of the antibodies with hydralazine (Kq >104M-1) may be relevant to the drug's induction of nucleic acid-reactive antibodies. Immunized rabbits displayed delayed hypersensitivity specific for adenine, indicating T-cell as well as B-cell interactions. A delayed skin reaction was also produced by gramicidin S.

L4 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1975:471618 CAPLUS
DOCUMENT NUMBER: 83:71618
ORIGINAL REFERENCE NO.: 83:11193a,11196a
TITLE: In vitro analysis of the control of keratinocyte proliferation in human epidermis by physiologic and pharmacologic agents
AUTHOR(S): Flaxman, B. Allen; Harper, Robert A.
CORPORATE SOURCE: Sect. Med., Brown Univ., Providence, RI, USA
SOURCE: Journal of Investigative Dermatology (1975), 65(1), 53-60
CODEN: JIDEAE; ISSN: 0022-202X
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB Human keratinocytes grown in vitro as epithelial outgrowths or as organ cultures maintain many of their normal functions such as proliferation and keratinization. These in vitro systems have been used to analyze the effect of various agents on proliferation. All adenine nucleotides, including dibutyryl cyclic AMP (I) [362-74-3], blocked mitosis in the G2 part of the cell cycle at concns. of 1 + 10-4M. Some nonadenine nucleotides also showed this effect, but only at higher concns., an indication that the effect was specific for adenine nucleotides. I and theophylline [58-55-9] both depressed the incorporation of [3H]thymidine into DNA. Catechol amines such as DL-isoproterenol [149-53-1], epinephrine [51-43-4], and norepinephrine [51-41-2] were also potent inhibitors of mitosis (G2 block) at concns. of 1 + 10-8 to 1 + 10-10M. The fact that the effect could be blocked by the beta-blocking agent, propranolol [525-66-6], suggests the existence of specific membrane

receptor sites. However, dichloroisoproterenol [59-61-0], another beta blocker, had distinct inhibitory properties in itself and thus indicated that the mechanism of action of catechol amines in human keratinocytes is complex and may involve more than binding to specific receptor sites. Histamine [51-45-6] at a concentration of 2 + 10-6M was also a strong mitotic inhibitor. This finding is directly opposed to that in rat skin where mitosis is stimulated. Imidazole acetate [645-65-8], a histamine breakdown product, was found to be a striking mitotic stimulator in organ culture. A water-extractable protein (chalone) from human skin also caused a block in G2. Most of the substances tested occur naturally in the cell or organism and their ability to stimulate or depress proliferation in vitro suggests that they play a regulatory role in vivo.

L4 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1968:85688 CAPLUS
DOCUMENT NUMBER: 68:85688
ORIGINAL REFERENCE NO.: 68:16487a,16490a
TITLE: Biochemical stigmata of epidermis reactivity. I. Behavior of acid-soluble, ultraviolet-absorbing compounds of guinea pig epidermis under the influence of autolysis, regeneration stimulation, cetane application, and methotrexate treatment
AUTHOR(S): Schwarz, Eberhard; Klaschka, F.
CORPORATE SOURCE: Rudolf Virchow-Krankenhaus, Berlin, Fed. Rep. Ger.
SOURCE: Hautarzt (1967), 18(12), 532-5
CODEN: HAUTAW; ISSN: 0017-8470
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Changes in the amts. of acid-soluble, uv-absorbing material in guinea pig epidermis following stimulation by repeated shaving or with cetane (hexadecane) or methotrexate (2 mg./kg./day for 8 days or 6 weeks) were studied by column chromatog. on Dowex 50-X8 eluted with HCOONH4. Fractions Ia-c contained AMP, GMP, CMP, and UMP; Id/e, hypoxanthine and guanosine; IIa1, free guanine; IIa2, probably cytosine; IIa3, probably cytidine; III, which contained more than half of the total uv-absorbing material, contained urocanic acid; and IV, free adenine. Under autolytic conditions (hydrolysis of skin in HClO4), uv-absorbing fractions decreased. Skin stimulation by shaving, as well as cetane application, decreased fractions Id/e, IIa2, and particularly III; fractions Ia-c and IV were not significantly affected. Fraction IIa1 was observed after both treatments but not in controls; fraction IIa3 was observed only after treatment with cetane. Methotrexate treatment for 8 days reduced fractions Id/e, IIa2, IV, and particularly Ia-c, produced IIa1, did not affect III, and did not produce IIa3. After methotrexate treatment for 6 weeks, fractions Ia-c and III were similar to control values, and IV, Id/e, and particularly IIa2 were reduced. The levels of IIa1 were the highest observed; no IIa3 was produced. Fraction III is related to keratohyalin formation in the keratotic process.

L4 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1967:409218 CAPLUS
DOCUMENT NUMBER: 67:9218
ORIGINAL REFERENCE NO.: 67:1719a,1722a
TITLE: Acid soluble, uv-absorbing compounds of the guinea pig epidermis
AUTHOR(S): Schwarz, Eberhard
CORPORATE SOURCE: Freie Univ., Berlin, Fed. Rep. Ger.
SOURCE: Archiv fuer Klinische und Experimentelle Dermatologie (1967), 228, 179-87
CODEN: AKEDAX; ISSN: 0300-8614
DOCUMENT TYPE: Journal

LANGUAGE: German

AB The skin of 8 guinea pigs (400 g.) was pooled in N HClO4 (3-4 g. fresh weight/25 ml.). The mixture was homogenized and centrifuged, and the samples reextd. Supernatants were neutralized with 5N KOH and concentrated in vacuo. The composition of the epidermis extract was determined by column chromatog. on Dowex 50, measuring the eluate continuously at 254 mμ. The uv-absorbing material was divided into subfractions, and paper chromatog. was carried out. Several uv-absorbing bands in the eluate of the Dowex column were further analyzed. UMP, CMP, adenine, guanine, uric acid, and occasionally hypoxanthine were found; thymine was not detected.

L4 ANSWER 17 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1965:68837 CAPLUS
DOCUMENT NUMBER: 62:68837
ORIGINAL REFERENCE NO.: 62:12265g-h
TITLE: Deoxyribonucleic acid in human skin studied in vitro by autoradiography
AUTHOR(S): Fukuyama, Kimie; Nakamura, Toshio; Bernstein, I. A.
CORPORATE SOURCE: Univ. of Michigan, Ann Arbor
SOURCE: Journal of Investigative Dermatology (1965), 44, 29-32
CODEN: JIDEAE; ISSN: 0022-202X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Thymidine-3H (2 μc./ml.) was used as tracer for autoradiographic study of DNA synthesis in the epidermis of human skin cultures at pH 7.2-7.4. In normal skin DNA was synthesized in nuclei of basal layers as well as in those above the basal layer. The number of labeled cells was abnormally high in verrucous and eczematous lesions, indicating a high rate of proliferation of these cells.

L4 ANSWER 18 OF 19 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1965:52817 CAPLUS
DOCUMENT NUMBER: 62:52817
ORIGINAL REFERENCE NO.: 62:9388a-c
TITLE: Evidences of a photoreaction of the photosensitizing furocoumarins with DNA and the pyrimidine nucleosides and nucleotides
AUTHOR(S): Musajo, L.; Rodighiero, G.; Dall'Acqua, F.
CORPORATE SOURCE: Univ. Padova, Italy
SOURCE: Experientia (1965), 21(1), 24-6
CODEN: EXPEAM; ISSN: 0014-4754
DOCUMENT TYPE: Journal
LANGUAGE: English

AB cf. CA 62, 5591e. In a study of the modifications occurring in DNA and furocoumarin (I) solns. irradiated with uv light (3655 A.), an evident shift of the maximum from 450 to 400 mμ, with an increased fluorescent intensity, was observed spectrofluorimetrically following the irradiation of a mixture of DNA and psoralen (II), the most skin-active I. The fluorescence spectrum of II, irradiated alone, did not exhibit a similar change. Analogous modifications in the fluorescence spectra were also observed for solns. of DNA added with other skin-photosensitizing I, such as xanthotoxin, bergapten, 4'-methylpsoralen, and 4,4',8-trimethylpsoralen, but no modifications were observed after irradiating a solution of DNA in the presence of skin-inactive I, such as bergaptol, imperatorin, and isopimpinellin. On irradiating aqueous solns. containing one of the moieties occurring in DNA and RNA and II, and preparing the chromatogram of the resulting product, modifications in the fluorescence spectra were observed only with the nucleosides and nucleotides derived from a pyrimidine base (i.e., thymidylic, cytidylic, deoxycytidylic, and uridylic acids, and thymidine, cytidine, deoxycytidine, and uridine), the modifications being identical, in all

cases, and similar to those observed for DNA. No modifications were observed with the nucleosides and nucleotides derived from a purine, nor with the simple purine or pyrimidine bases. A photoreaction occurred when a solution of DNA was irradiated in the presence of a skin-active I.

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L4   ANSWER 19 OF 19  CAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         1964:77419  CAPLUS
DOCUMENT NUMBER:          60:77419
ORIGINAL REFERENCE NO.:   60:13644b-c
TITLE:                    Acid-soluble nucleotides and peptides of skin
AUTHOR(S):                Urivetzky, Morton; Seifter, Sam; Meilman, Edward
CORPORATE SOURCE:         Albert Einstein Coll. of Med., New York, NY
SOURCE:                   Proceedings of the Society for Experimental Biology
                          and Medicine (1964), 115, 305-10
                          CODEN: PSEBAA; ISSN: 0037-9727
DOCUMENT TYPE:            Journal
LANGUAGE:                 Unavailable
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AB A cold-HClO4 extract was made of the skins of young rabbits and separated into fractions by described methods. Small amts. of substances reacting with alkaline HONH2 solution were detected in some fractions. Two fractions subjected to paper electrophoresis contained overlapping nucleotide and peptide components migrating toward the cathode at pH 4 and giving pos. color tests for hydroxamates after treatment with HONH2 and ferric perchlorate spray reagents. Proline was present in these fractions and several others. An acidic peptide containing glutamic acid (N-terminal), glycine, and cysteic acid was isolated from a fraction adsorbed and eluted on and from Dowex-1 which also contained adenylic acid. Quant. anal. data on the composition of the many fractions are tabulated.

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=> S (61-19-8/RN or (adenosine monophosphate)/CN) and (58-97-9/RN and (uridine
monophosphate)/CN)
'RN' IS NOT A VALID FIELD CODE
'CN' IS NOT A VALID FIELD CODE
NUMERIC VALUE NOT VALID '61-19-8'
NUMERIC VALUE NOT VALID '58-97-9'
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L6         2298 (61-19-8/RN OR (ADENOSINE MONOPHOSPHATE)/CN) AND (58-97-9/RN OR
                (URIDINE MONOPHOSPHATE)/CN)

=> DUP REM
ENTER L# LIST OR (END):L6
DUPLICATE IS NOT AVAILABLE IN 'ADISINSIGHT, ADISNEWS, DGENE, DRUGMONOG2,
IMSPRODUCT, KOSMET, NUTRACEUT, PCTGEN, PHARMAML, USGENE'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING IS APPROXIMATELY  74% COMPLETE FOR L6
PROCESSING COMPLETED FOR L6
L7          2227 DUP REM L6 (71 DUPLICATES REMOVED)

=> S L6/ab
FIELD CODES CANNOT BE CHANGED HERE
You may have tried to apply a field code to a term that already has a
field code.  You can only add a field code to a term that has no field
code appended to it.

=> S (61-19-8/RN OR (ADENOSINE MONOPHOSPHATE)/CN)/AB AND (58-97-9/RN OR (URIDINE
MONOPHOSPHATE)/CN)/AB
DUPLICATE FIELD QUALIFICATION 'ADENOSINE MONOPHOSPHATE'
Terms may be field qualified either individually, e.g., 'REACTION/TI',
or as a group, e.g., '(REACTION OR SYNTHESIS)/TI'.  However, both
types of qualification cannot be used at the same time.  For example,
the expression '(REACTION/CV OR SYNTHESIS)/TI' is not valid.

=>  S (ADENOSINE MONOPHOSPHATE)/AB AND (uridine monophosphate)/AB
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L8   141 (ADENOSINE MONOPHOSPHATE)/AB AND (URIDINE MONOPHOSPHATE)/AB

=> DUP REM L8
DUPLICATE IS NOT AVAILABLE IN 'ADISINSIGHT, ADISNEWS, DGENE, DRUGMONOG2,
IMSPRODUCT, KOSMET, NUTRACEUT, PCTGEN, PHARMAML, USGENE'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L8
L9   85 DUP REM L8 (56 DUPLICATES REMOVED)

=> D L9 1-85 IBIB ABS

L9   ANSWER 1 OF 85 Elsevier Biobase COPYRIGHT 2009 Elsevier Science B.V. on
       STN
ACCESSION NUMBER: 2009073578   ESBIOBASE
TITLE: Dietary nucleotide supplementation enhances growth and
                        immune responses of grouper, Epinephelus malabaricus
AUTHOR(S):   Shiau, S.-Y.; Lin, Y.-H.; Wang, H.
CORPORATE SOURCE: Shiau, S.-Y. (Department of Food and Nutrition,
                        Providence University, 200 Chung-Chi Road, Shalu,
                        Taichung County 433 (TW), Taichung County (TW)); Shiau,
                        S.-Y.; Lin, Y.-H.; Wang, H. (Department of Food
                        Science, National Taiwan Ocean University, Keelung
                        (TW))
                        EMAIL: syshiau@pu.edu.tw
SOURCE: Aquaculture Nutrition (Apr 2009) Volume 15, Number 2,
                        pp. 117-122, 28 refs.
                        CODEN: AQNUF6 ISSN: 1353-5773 E-ISSN: 1365-2095
                        DOI: 10.1111/j.1365-2095.2007.00561.x
                        Published by: Blackwell Publishing Ltd, 9600 Garsington
                        Road, Oxford, OX4 2XG (GB)
COUNTRY OF PUBLICATION: United Kingdom
DOCUMENT TYPE: Journal; Article
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 23 Mar 2009
                        Last updated on STN: 23 Mar 2009
AN   2009073578   ESBIOBASE
AB   Basal diet containing 0.5, 1.0, 1.5 and 2.0 g kg -1 mixture of inosine
       monophosphate (IMP), adenosine monophosphate (AMP),
       guanosine monophosphate (GMP), uridine monophosphate
       (UMP) and cytidine monophosphate (CMP) (1 : 1 : 1 : 1 : 1) (mixed-NT;
       Experiment 1) and 1.5 g kg -1 from each nucleotides and
       mixed-nucleotides (NT; Experiment 2) were fed to triplicate groups of
       grouper for 8 weeks. Basal diet without NT was used as control in both
       Experiments. In Experiment 1, fish fed the diet with 1.5 g mixed-NT kg
       -1 had higher (P < 0.05) weight gain (WG) than the control group. The
       superoxide anion (O 2 -) production ratio was higher in fish fed diets
       with 1.0-1.5 g mixed-NT kg -1 than the fish fed diets with ≤0.5
       g mixed-NT kg -1 . In Experiment 2, fish fed diets with nucleotides had
       higher WG than the control group. The O 2 - production ratio was
       higher in fish fed the diet with 1.5 g AMP kg -1 , followed by fish fed
       diets with 1.5 g UMP and mixed-NT kg -1 , and lowest in the control
       group. These results suggest that growth and immune responses were
       enhanced in grouper fed diet with 1.5 g mixed-NT kg -1 diet. Diet with
       1.5 g kg -1 of AMP seems to be more beneficial on the immune responses
       in fish than other nucleotides. .COPYRGT. 2009 Blackwell Publishing Ltd.

L9   ANSWER 2 OF 85 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation on
     STN

ACCESSION NUMBER: 2009:330358 SCISEARCH
THE GENUINE ARTICLE: 415VU
TITLE: Dietary nucleotide supplementation enhances growth and immune responses of grouper, Epinephelus malabaricus
AUTHOR: Shiau, S. -Y (Reprint)
CORPORATE SOURCE: Providence Univ, Dept Food & Nutr, 200 Chung Chi Rd, Shalu 433, Taichung County, Taiwan (Reprint)
E-mail: syshiau@pu.edu.tw
AUTHOR: Shiau, S. -Y (Reprint)
CORPORATE SOURCE: Providence Univ, Dept Food & Nutr, Shalu 433, Taichung County, Taiwan
E-mail: syshiau@pu.edu.tw
AUTHOR: Lin, Y. -H; Wang, H.; Shiau, S. -Y (Reprint)
CORPORATE SOURCE: Natl Taiwan Ocean Univ, Dept Food Sci, Chilung, Taiwan
E-mail: syshiau@pu.edu.tw
COUNTRY OF AUTHOR: Taiwan
SOURCE: AQUACULTURE NUTRITION, (APR 2009) Vol. 15, No. 2, pp. 117-122.
ISSN: 1353-5773.
PUBLISHER: WILEY-BLACKWELL PUBLISHING, INC, COMMERCE PLACE, 350 MAIN ST, MALDEN 02148, MA USA.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 28
ENTRY DATE: Entered STN: 19 Mar 2009
Last Updated on STN: 19 Mar 2009
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Basal diet containing 0.5, 1.0, 1.5 and 2.0 g kg(-1) mixture of inosine monophosphate (IMP), adenosine monophosphate (AMP), guanosine monophosphate (GMP), uridine monophosphate (UMP) and cytidine monophosphate (CMP) (1 : 1 : 1 : 1 : 1) (mixed-NT; Experiment 1) and 1.5 g kg(-1) from each nucleotides and mixed-nucleotides (NT; Experiment 2) were fed to triplicate groups of grouper for 8 weeks. Basal diet without NT was used as control in both Experiments. In Experiment 1, fish fed the diet with 1.5 g mixed-NT kg(-1) had higher ($P < 0.05$) weight gain (WG) than the control group. The superoxide anion (O-2(-)) production ratio was higher in fish fed diets with 1.0-1.5 g mixed-NT kg(-1) than the fish fed diets with <= 0.5 g mixed-NT kg(-1). In Experiment 2, fish fed diets with nucleotides had higher WG than the control group. The O-2(-) production ratio was higher in fish fed the diet with 1.5 g AMP kg(-1), followed by fish fed diets with 1.5 g UMP and mixed-NT kg(-1), and lowest in the control group. These results suggest that growth and immune responses were enhanced in grouper fed diet with 1.5 g mixed-NT kg(-1) diet. Diet with 1.5 g kg(-1) of AMP seems to be more beneficial on the immune responses in fish than other nucleotides.

L9 ANSWER 3 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:538911 CAPLUS
DOCUMENT NUMBER: 148:556054
TITLE: 5'-Nucleotidase diagnostic kit and 5'-nucleotidase activity detecting method
INVENTOR(S): Wang, Erzhong
PATENT ASSIGNEE(S): Suzhou Anj Biotech Co., Ltd., Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 10pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

CN 101169377	A	20080430	CN 2006-10097255	20061026
PRIORITY APPLN. INFO.:			CN 2006-10097255	20061026

AB The title 5'-nucleotidase diagnostic kit comprises: buffer solution, nucleoside monophosphate (adenosine monophosphate, uridine monophosphate or inosine monophosphate), glyceraldehyde-3-phosphate, glyceraldehyde-3-phosphate dehydrogenase, reduced coenzyme (NADP+, NAD+ or thio-NAD+), and stabilizer. The title method comprises the steps of: mixing the sample and the reagents at a certain volume ratio, performing a series of enzymic reactions, placing the products in an UV-vis analyzer, detecting the absorbance rising rate at dominant wavelength 340nm, and calculating the activity of 5'-nucleotidase.

L9 ANSWER 4 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 2008:1078930 CAPLUS
DOCUMENT NUMBER: 149:519716
TITLE: Synthesis of 28-membered macrocyclic polyammonium cations functionalized gold nanoparticles and their potential for sensing nucleotides
AUTHOR(S): Misra, Tarun Kumar; Liu, Chuen-Ying
CORPORATE SOURCE: Department of Chemistry, National Taiwan University, Taipei, 10617, Taiwan
SOURCE: Journal of Colloid and Interface Science (2008), 326(2), 411-419
CODEN: JCISA5; ISSN: 0021-9797
PUBLISHER: Elsevier Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A new synthesis of underivatized gold nanoparticles (Au-NPs) in water stabilized by the highly water soluble 28-membered macrocyclic polyammonium chloride, [28]ane-(NH2+)6O2.6Cl- (28-MCPAC) is reported. In addition to providing stability, 28-MCPAC with its cationic form functionalizes the Au-NPs for sensing anions in water. The 28-MCPAC-Au-NPs show a surface plasmon band in the visible region (>520 nm). By tuning the 28-MCPAC:HAuCl4 ratio, Au-NPs with different core diams. ranging from 4 nm to 6 nm, as determined by TEM anal., can be obtained. Particles are spherical, discrete, and appeared to have narrow size distributions. Raman spectroscopy confirms that the physisorption is responsible for the interaction between Au-NP surface and 28-MCPAC. The potential of the as-synthesized particles for sensing monophosphorylated nucleosides (nucleotides): 5-adenosine monophosphate (5-AMP), 5-cytosine monophosphate (5-CMP), 5-guanine monophosphate (5-GMP), and 5-uridine monophosphate (5-UMP) is investigated spectroscopically. Nucleotides-assisted agglomerations of 28-MCPAC-Au-NPs follow the order: 5-UMP > 5-GMP > 5-CMP > 5-AMP . An attempt is taken to prepare Au-NPs in water at pH 4.55 without an added stabilizer. Particles without an added stabilizer are short lived, and the TEM image shows that the particles aggregate following a quasi-two-dimensional self-assembly array.

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2007:542724 CAPLUS
DOCUMENT NUMBER: 147:16477
TITLE: Radiation-resistant composition containing 5'-nucleotide, vitamin C and soybean oligosaccharides
INVENTOR(S): Zhao, Hongling; Jia, Naikun; Liu, Duohua; Li, Gaowo
PATENT ASSIGNEE(S): Beijing Yanjing Zhongke Bio-Tech Co., Ltd., Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 12pp.
CODEN: CNXXEV

DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1961891	A	20070516	CN 2006-10114733	20061122

PRIORITY APPLN. INFO.: CN 2006-10114733 20061122

AB The title radiation-resistant composition contains 5'-nucleotide 10-30, vitamin C 5-15, soybean oligosaccharide 20-40 and auxiliaries 15-65%. 5'-nucleotide is 5'-adenosine monophosphate, 5'-guanosine monophosphate, 5'-cytidine monophosphate, 5'-uridine monophosphate or their combination. The title radiation-resistant composition can be dry powder, tablet, capsule or oral solution After oral administration, the HC50 and SOD activities in serum of the subjects all increased significantly($p<0.05$); the weight bodies and other indexes had no significant changes($p>0.05$). This inventive composition has assistant protective effect from radiation with no harm to human body.

L9 ANSWER 6 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 2
ACCESSION NUMBER: 2007:483861 BIOSIS
DOCUMENT NUMBER: PREV200700481686
TITLE: Differences in glutamic acid and 5'-ribonucleotide contents between flesh and pulp of tomatoes and the relationship with umami taste.
AUTHOR(S): Oruna-Concha, Maria-Jose; Methven, Lisa; Blumenthal, Heston; Young, Christopher; Mottram, Donald S. [Reprint Author]
CORPORATE SOURCE: Univ Reading, Dept Food Biosci, Reading RG6 6AP, Berks, UK d.s.mottram@reading.ac.uk
SOURCE: Journal of Agricultural and Food Chemistry, (JUL 11 2007) Vol. 55, No. 14, pp. 5776-5780. CODEN: JAFCAU. ISSN: 0021-8561.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 12 Sep 2007
Last Updated on STN: 12 Sep 2007

AB A difference in taste characteristics between the outer flesh and the inner pulp of tomatoes has been observed; in particular the pulp, which contains the seeds, had more umami taste. Analysis of the free amino acids and 5 '-ribonucleotides in the different parts of 13 varieties of tomatoes showed that in all cases the pulp contained higher levels of glutamic acid, 5 '-adenosine monophosphate (AMP), 5 '-guanosine monophosphate, 5 '-uridine monophosphate, and 5 '-cytidine monophosphate. The mean concentration of glutamic acid in the flesh was 1.26 g/kg and that in the pulp 4.56 g/kg but in some varieties the difference between pulp and flesh was more than 6-fold. For AMP, the mean concentration in the flesh was 80 mg/kg and that in the pulp was 295 mg/kg with one variety showing an 11-fold difference between pulp and flesh. These differences in concentration of these compounds, which are known to possess umami characteristics, provide an explanation for the perceived difference in umami taste between the flesh and pulp of tomatoes.

L9 ANSWER 7 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 3
ACCESSION NUMBER: 2005:390245 BIOSIS
DOCUMENT NUMBER: PREV200510179543
TITLE: Purification and characterization of pyrimidine nucleotide N-ribosidase from Pseudomonas oleovorans.

AUTHOR(S): Yu, Tae Shick [Reprint Author]
CORPORATE SOURCE: Keimyung Univ, Dept Microbiol, Taegu 701704, South Korea
tsyu@kmu.ac.kr
SOURCE: Journal of Microbiology and Biotechnology, (JUN 2005) Vol. 15, No. 3, pp. 573-578.
ISSN: 1017-7825.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 28 Sep 2005
Last Updated on STN: 28 Sep 2005

AB Pyrimidine nucleotide N-ribosidase (pyrimidine 5'-nucleotide phosphoribo(deoxyribo)hydrolase/pyrimidine 5'-nucleotide nucleosidase, EC 3.2.2.10) catalyzes the breakdown of pyrimidine 5'-nucleotide into pyrimidine base and ribose(deoxyribo)-5-phosphate. However, detailed characteristics of the enzyme have not yet been reported. The enzyme was purl led to homogeneity 327.9-fold with an overall yield of 6.1% from Pseudomonos oleovorans ATCC 8062. The enzyme catalyzed cytidine monophosphate (CMP) and uridine monophosphate (UMP), but not adenosine monophosphate (AMP) and guanosine monophosphate (GMP). The enzyme optimally metabolized CMP at pH 6.0 and UMP at around 8.5, and the optimum temperature for the overall enzyme reaction was found to be 37 degrees C. The K-m values of the enzyme for CMP (at pH 6.0) and UMP (at pH 8.5) were 1.6 mM and 1.1 mM, respectively. AMP, deoxyCMP, and deoxyUMP were very effective inhibitors of the reaction. Double-reciprocal plots obtained in the absence and in the presence of AMP revealed that this inhibitory effect was of the mixed competitive type with respect to the breakdown of CMP and of the noncompetitive type with respect to the breakdown of UMP. In the presence of AMP, the enzyme followed sigmoid kinetics with respect to each substrate.

L9 ANSWER 8 OF 85 Elsevier Biobase COPYRIGHT 2009 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2005191460 ESBIOBASE
TITLE: Purification and characterization of pyrimidine nucleotide N-ribosidase from Pseudomonas oleovorans
AUTHOR(S): Yu, Tae Shick
CORPORATE SOURCE: Yu, Tae Shick (Department of Microbiology, Keimyung University, 701-704 Taegu (KR))
EMAIL: tsyu@kmu.ac.kr
SOURCE: Journal of Microbiology and Biotechnology (Jun 2005) Volume 15, Number 3, pp. 573-578, 15 refs.
CODEN: JOMBES ISSN: 1017-7825
COUNTRY OF PUBLICATION: Republic of Korea
DOCUMENT TYPE: Journal; Article
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 3 Feb 2009
Last updated on STN: 3 Feb 2009

AN 2005191460 ESBIOBASE
AB Pyrimidine nucleotide N-ribosidase (pyrimidine 5'-nucleotide phosphoribo(deoxyribo)hydrolase/pyrimidine 5'-nucleotide nucleosidase, EC 3.2.2.10) catalyzes the breakdown of pyrimidine 5'-nucleotide into pyrimidine base and ribose(deoxynbo)-5-phosphate. However, detailed characteristics of the enzyme have not yet been reported. The enzyme was purified to homogeneity 327.9-fold with an overall yield of 6.1% from Pseudomonas oleovorans ATCC 8062. The enzyme catalyzed cytidine monophosphate (CMP) and uridine monophosphate (UMP), but not adenosine monophosphate (AMP) and guanosine monophosphate (GMP). The enzyme optimally metabolized CMP at pH 6.0 and UMP at around 8.5, and the optimum temperature for the overall enzyme reaction was found to be 37°C. The K m values of the enzyme for

CMP (at pH 6.0) and UMP (at pH 8.5) were 1.6 mM and 1.1 mM, respectively. AMP, deoxyCMP, and deoxyUMP were very effective inhibitors of the reaction. Double-reciprocal plots obtained in the absence and in the presence of AMP revealed that this inhibitory effect was of the mixed competitive type with respect to the breakdown of CMP and of the noncompetitive type with respect to the breakdown of UMP. In the presence of AMP, the enzyme followed sigmoid kinetics with respect to each substrate. .COPYRGT. The Korean Society for Microbiology and Biotechnology.

L9 ANSWER 9 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:1030509 CAPLUS
DOCUMENT NUMBER: 144:169940
TITLE: Analysis of 5'-nucleotide in Lentinus edodes with high performance liquid chromatography-mass spectrometry
AUTHOR(S): Zou, Yaohong
CORPORATE SOURCE: Department of Chemistry, Changshu Institute of Technology, Changshu, Jiangsu Province, 215500, Peop. Rep. China
SOURCE: Shipin Kexue (Beijing, China) (2005), 26(1), 196-198
CODEN: SPKHD5; ISSN: 1002-6630
PUBLISHER: Zhongguo Shipin Zazhishe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB A new high performance liquid chromatog./mass spectrometric method for the anal. of 5'-nucleotide in lentinus edodes was reported. 5'-Nucleotide could be separated on a ODS column by using a mobile phase containing 0.05% phosphoric acid water-methanol (90/10, V/V). The 5'-nucleotide in lentinus edodes were identified as 5'-inosine monophosphate, 5'-guanosine monophosphate, 5'-uridine monophosphate and 5'-adenosine monophosphate by using HPLC and LC/MS. The content of four 5'-nucleotides in lentinus edodes was determined by external standard method. Their recoveries were resp. 100.4%, 99.0%, 97.8%, 97.2%. Their relative standard deviation were resp. 2.07%, 2.18%, 1.91%, 2.76% and their detection were resp. 2.5, 2.1, 3.2, 3.5μg/mL. The method was accurate, simple and easy.

L9 ANSWER 10 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 4
ACCESSION NUMBER: 2005:45129 BIOSIS
DOCUMENT NUMBER: PREV200500044231
TITLE: Molecular cloning, expression, and characterization of adenylate isopentenyltransferase from hop (Humulus lupulus L.).
AUTHOR(S): Sakano, Yuichi; Okada, Yukio; Matsunaga, Akiko; Suwama, Takaharu; Kaneko, Takafumi; Ito, Kazutoshi; Noguchi, Hiroshi; Abe, Ikuro [Reprint Author]
CORPORATE SOURCE: Sch Pharmaceut Sci, Univ Shizuoka, 52-1 Yada, Shizuoka, 4228526, Japan
abei@ys7.u-shizuoka-ken.ac.jp
SOURCE: Phytochemistry (Amsterdam), (September 2004) Vol. 65, No. 17, pp. 2439-2446. print.
ISSN: 0031-9422 (ISSN print).
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 26 Jan 2005
Last Updated on STN: 26 Jan 2005
AB A cDNA encoding adenylate isopentenyltransferase (AIPT) was cloned and sequenced from cones of hop (Humulus lupulus L.) by RT-PCR using oligonucleotide primers based on the conserved sequences of Arabidopsis thaliana AIPT isozymes (AtIPT1, AtIPT3, AtIPT4, AtIPT5, AtIPT6, AtIPT7 and AtIPT8). A full-length cDNA contained a 990-by open reading frame

encoding a molecular mass of 36,603 Da protein with 329 amino acids. Further, DNA sequencing of genomic DNA revealed absence of introns in the frame. On Southern blot analysis, a single AIPT gene was detected in H. lupulus, while RT-PCR analyses demonstrated that the gene was equally expressed in almost all tissues in the plant including roots, stems, leaves and cones. The deduced amino acid sequence shares 38-51% identity to those of A. thaliana AtIPTs. A recombinant enzyme expressed in Escherichia coli catalyzed isopentenyl transfer reaction from dimethylallyldiphosphate (DMAPP) to the N6 amino group of adenosine monophosphate (AMP), adenosine diphosphate (ADP) and adenosine triphosphate (ATP), respectively. In contrast, other nucleotides; guanosine monophosphate (GMP), inosine monophosphate (IMP), cytosine monophosphate (CMP), uridine monophosphate (UMP), were not accepted as a substrate. Interestingly, steady-state kinetic analyses revealed that the isopentenylation of ADP and ATP were more efficient than that of AMP as previously reported for A. thaliana AtIPT4. Finally, H. lupulus AIPT contains the putative ATP/GTP binding motif at the N-terminal as in the case of other known isopentenyltransferases. Site-directed mutagenesis of a conserved Asp62, located right after the ATP/GTP binding motif, with Ala resulted in complete loss of enzyme activity.

L9 ANSWER 11 OF 85 Elsevier Biobase COPYRIGHT 2009 Elsevier Science B.V. on STN

ACCESSION NUMBER: 2004249875 ESBIOBASE
TITLE: Molecular cloning, expression, and characterization of adenylate isopentenyltransferase from hop (Humulus lupulus L.)
AUTHOR(S): Sakano, Yuichi; Matsunaga, Akiko; Suwama, Takaharu; Noguchi, Hiroshi; Abe, Ikuro; Okada, Yukio; Kaneko, Takafumi; Ito, Kazutoshi
CORPORATE SOURCE: Sakano, Yuichi; Matsunaga, Akiko; Suwama, Takaharu; Noguchi, Hiroshi; Abe, Ikuro (Sch. Pharmaceutical Sci. 21st C., University of Shizuoka, 52-1 Yada, Shizuoka 422-8526, Japan); Okada, Yukio; Kaneko, Takafumi; Ito, Kazutoshi (Plant Bioeng. Research Laboratories, Sapporo Breweries Ltd., 37-1 Kizaki, Nitta, G.)
EMAIL: abei@ys7.u-shizuoka-ken.ac.jp
SOURCE: Phytochemistry (Sep 2004) Volume 65, Number 17, pp. 2439-2446, 17 refs.
CODEN: PYTCAS ISSN: 0031-9422
DOI: 10.1016/j.phytochem.2004.08.006
PUBL. ITEM IDENTIFIER: S0031942204003802
COUNTRY OF PUBLICATION: United Kingdom
DOCUMENT TYPE: Journal; Article
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 2 Feb 2009
Last updated on STN: 2 Feb 2009

AN 2004249875 ESBIOBASE
AB A cDNA encoding adenylate isopentenyltransferase was cloned and sequenced from Humulus lupulus L. The corresponding recombinant enzyme expressed in Escherichia coli catalyzed isopentenyl transfer reaction from DMAPP to the N 6 amino group of AMP, ADP and ATP, respectively. Site-directed mutagenesis of a conserved Asp62 resulted in complete loss of enzyme activity. A cDNA encoding adenylate isopentenyltransferase (AIPT) was cloned and sequenced from cones of hop (Humulus lupulus L.) by RT-PCR using oligonucleotide primers based on the conserved sequences of Arabidopsis thaliana AIPT isozymes (AtIPT1, AtIPT3, AtIPT4, AtIPT5, AtIPT6, AtIPT7 and AtIPT8). A full-length cDNA contained a 990-bp open reading frame encoding a molecular mass of 36,603 Da protein with 329

amino acids. Further, DNA sequencing of genomic DNA revealed absence of introns in the frame. On Southern blot analysis, a single AIPT gene was detected in H. lupulus, while RT-PCR analyses demonstrated that the gene was equally expressed in almost all tissues in the plant including roots, stems, leaves and cones. The deduced amino acid sequence shares 38-51% identity to those of A. thaliana AtIPTs. A recombinant enzyme expressed in Escherichia coli catalyzed isopentenyl transfer reaction from dimethylallyldiphosphate (DMAPP) to the N 6 amino group of adenosine monophosphate (AMP), adenosine diphosphate (ADP) and adenosine triphosphate (ATP), respectively. In contrast, other nucleotides; guanosine monophosphate (GMP), inosine monophosphate (IMP), cytosine monophosphate (CMP), uridine monophosphate (UMP), were not accepted as a substrate. Interestingly, steady-state kinetic analyses revealed that the isopentenylation of ADP and ATP were more efficient than that of AMP as previously reported for A. thaliana AtIPT4. Finally, H. lupulus AIPT contains the putative ATP/GTP binding motif at the N-terminal as in the case of other known isopentenyltransferases. Site-directed mutagenesis of a conserved Asp62, located right after the ATP/GTP binding motif, with Ala resulted in complete loss of enzyme activity.

L9 ANSWER 12 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:920670 CAPLUS
DOCUMENT NUMBER: 144:127935
TITLE: Study on extraction of nucleotides from beer yeast
AUTHOR(S): Su, Qinghui; Wu, Xiaodan; Ma, Xingsheng; Wang, Changyu
CORPORATE SOURCE: Heilongjiang University of Commerce, Harbin, Heilongjiang Province, 150076, Peop. Rep. China
SOURCE: Niangjiu (2004), 31(3), 30-32
CODEN: NIANE6; ISSN: 1002-8110
PUBLISHER: Niangjiu Zazhi Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Four kinds of nucleotides, 5'-AMP (adenosine monophosphate), 5'-CMP (cytidine monophosphate), 5'-UMP (uridine monophosphate) and 5'-GMP (guanine monophosphate), were prepared from beer yeast. The nucleotides were extracted from nucleic acids by salt-heating, hydrolyzed by 5'-phosphodiesterase, and then separated by resin adsorption. By regulating the pH of solution, all of four kinds of nucleotides could be separated well.

L9 ANSWER 13 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:818240 CAPLUS
DOCUMENT NUMBER: 139:296572
TITLE: Composition containing purine an pyrimidine nucleic acid-related substances for promoting cell proliferation
INVENTOR(S): Kawamura, Mitsuaki; Shinohara, Shigeo
PATENT ASSIGNEE(S): Otsuka Pharmaceutical Co., Ltd., Japan
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003084485	A1	20031016	WO 2003-JP4247	20030403
W: AU, BR, CA, CN, ID, IN, JP, KR, PH, US				

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR

CA 2480080	A1	20031016	CA 2003-2480080		20030403
AU 2003220857	A1	20031020	AU 2003-220857		20030403
AU 2003220857	B2	20090129			
EP 1498101	A1	20050119	EP 2003-715748		20030403

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK

BR 2003009127	A	20050201	BR 2003-9127		20030403
CN 1646078	A	20050727	CN 2003-808030		20030403
TW 260225	B	20060821	TW 2003-92108012		20030408
IN 2004DN02911	A	20070525	IN 2004-DN2911		20040928
US 20050222076	A1	20051006	US 2004-510738		20041012
PRIORITY APPLN. INFO.:			JP 2002-106300	A	20020409
			WO 2003-JP4247	W	20030403

AB It is intended to provide a method of effectively exerting the cell proliferation promoting effect of a purine nucleic acid-related substance. Namely, disclosed are a composition for cell proliferation characterized by containing a purine nucleic acid-related substance and a pyrimidine nucleic acid-related substance; a method of potentiating the cell proliferation promoting effect of a purine nucleic acid-related substance characterized by using a combination of the purine nucleic acid-related substance with a pyrimidine nucleic acid-related substance; and a method of promoting cell proliferation characterized by using a combination of a purine nucleic acid-related substance with a pyrimidine nucleic acid-related substance and applying the same to the skin or mucosa. The effect of adenosine monophosphate disodium salt in combination with uridine monophosphate disodium salt on cultured human keratinocyte proliferation was examined A cosmetic lotion containing adenosine monophosphate disodium salt 3, uridine monophosphate disodium salt 0.1, polyoxyethylene hydrogenated castor oil 0.7, ethanol 5, glycerin 2, preservative 0.2, fragrance/pH adjuster q.s., and water balance to 100 % was formulated.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 14 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 5

ACCESSION NUMBER: 2003:572373 BIOSIS
DOCUMENT NUMBER: PREV200300577834
TITLE: Dietary nucleotides accelerate changes in intestinal lymphocyte maturation in weanling mice.
AUTHOR(S): Manzano, Manuel [Reprint Author]; Abadia-Molina, Ana Clara; Olivares, Enrique-Garcia; Gil, Angel; Rueda, Ricardo
CORPORATE SOURCE: R and D Department, Abbott Laboratories, Camino Purchil No. 68, 18004, Granada, Spain
manuel.manzano@abbott.com
SOURCE: JPGN Journal of Pediatric Gastroenterology and Nutrition, (October 2003) Vol. 37, No. 4, pp. 453-461. print.
ISSN: 0277-2116 (ISSN print).
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 10 Dec 2003
Last Updated on STN: 10 Dec 2003

AB Objective: Nucleotides, the building blocks of nucleic acids, are normal components of the mammalian diet. These molecules have been implicated in biologic processes, such as the stimulation of the immunologic response. Nucleotides have also been considered as conditionally essential nutrients for infant formulas. The authors evaluated the influence of dietary nucleotides on the expression of several surface antigens by different intestinal lymphocyte populations in weanling mice. Methods: Mice at weaning were fed a semipurified diet with or without 3 g/kg of each of the

following nucleotides: adenosine monophosphate, cytosine monophosphate, guanosine monophosphate, and uridine monophosphate. Animals were killed at different times (0, 4, 7, 12, and 18 days) after weaning, and lymphocytes from intestinal Peyer's patches, epithelium, and lamina propria were isolated. The expression of different antigens (CD3, CD4, CD8alpha, CD8beta, TCRalphabeta, TCRgammadelta, CD5, CD22 and CD45R) was analyzed by flow cytometry. Results: The expression of these antigens changed parallel to the maturation of the lymphocytes from Peyer's patches, epithelium, and lamina propria. However, developmental changes of expression for most of the antigens occurred sooner in the animals fed the diet supplemented with nucleotides. The expression of T and B antigens was different in the lymphocyte populations analyzed and also changed according to the diet within each population. In general, nucleotides promoted the expression of B- and T-helper cell antigens. Conclusions: The authors conclude that dietary nucleotides may affect the process of maturation and differentiation of intestinal lymphocytes, which usually takes place at weaning.

L9 ANSWER 15 OF 85 Elsevier Biobase COPYRIGHT 2009 Elsevier Science B.V. on STN

ACCESSION NUMBER: 2004246971 ESBIOBASE
TITLE: Dietary nucleotides accelerate changes in intestinal lymphocyte maturation in weanling mice
AUTHOR(S): Manzano, Manuel; Rueda, Ricardo; Abadia-Molina, Ana Clara; Olivares, Enrique-Garcia; Gil, Angel
CORPORATE SOURCE: Manzano, Manuel; Rueda, Ricardo (R and D Department, Abbott Laboratories, Granada (ES), Camino Purchil No. 68, 18004, Granada (ES)); Abadia-Molina, Ana Clara; Olivares, Enrique-Garcia; Gil, Angel (Dept. of Biochem. and Molec. Biology, University of Granada, Granada (ES))
EMAIL: manuel.manzano@abbott.com
SOURCE: Journal of Pediatric Gastroenterology and Nutrition (Oct 2003) Volume 37, Number 4, pp. 453-461, 37 refs.
CODEN: JPGND6 ISSN: 0277-2116
DOI: 10.1097/00005176-200310000-00010
COUNTRY OF PUBLICATION: United States of America
DOCUMENT TYPE: Journal; Article
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 2 Feb 2009
Last updated on STN: 2 Feb 2009

AN 2004246971 ESBIOBASE

AB Objective: Nucleotides, the building blocks of nucleic acids, are normal components of the mammalian diet. These molecules have been implicated in biologic processes, such as the stimulation of the immunologic response. Nucleotides have also been considered as conditionally essential nutrients for infant formulas. The authors evaluated the influence of dietary nucleotides on the expression of several surface antigens by different intestinal lymphocyte populations in weanling mice. Methods: Mice at weaning were fed a semipurified diet with or without 3 g/kg of each of the following nucleotides: adenosine monophosphate, cytosine monophosphate, guanosine monophosphate, and uridine monophosphate. Animals were killed at different times (0, 4, 7, 12, and 18 days) after weaning, and lymphocytes from intestinal Peyer's patches, epithelium, and lamina propria were isolated. The expression of different antigens (CD3, CD4, CD8α, CD8β, TCR$\alpha\beta$, TCR$\gamma\delta$, CD5, CD22 and CD45R) was analyzed by flow cytometry. Results: The expression of these antigens changed parallel to the maturation of the lymphocytes from Peyer's patches, epithelium, and lamina propria. However,

developmental changes of expression for most of the antigens occurred sooner in the animals fed the diet supplemented with nucleotides. The expression of T and B antigens was different in the lymphocyte populations analyzed and also changed according to the diet within each population. In general, nucleotides promoted the expression of B- and T-helper cell antigens. Conclusions: The authors conclude that dietary nucleotides may affect the process of maturation and differentiation of intestinal lymphocytes, which usually takes place at weaning.

L9 ANSWER 16 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:267439 CAPLUS
DOCUMENT NUMBER: 144:88497
TITLE: Study on process of 5'-nucleotides separation using cationic exchange resin NH-1
AUTHOR(S): Xiao, Linping; Xu, Zhengjun; He, Mingfang; Ying, Hanjie
CORPORATE SOURCE: School of Pharmacy and Biotechnology, Nanjing University of Chemical Technology, Nanjing, 210009, Peop. Rep. China
SOURCE: Lizi Jiaohuan Yu Xifu (2003), 19(5), 430-436
CODEN: LJYXE5; ISSN: 1001-5493
PUBLISHER: Lizi Jiaohuan Yu Xifu Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB A new cationic exchange resin NH-1 was synthesized based on phys. and chemical characteristic of 5'-uridine monophosphate, 5'-guanosine monophosphate (5'-GMP), 5'-cytidine monophosphate (5'-CMP), and 5'-adenosine monophosphate (5'-AMP). Resolns. of four nucleotides on the resin NH-1 were studied and the process conditions were optimized. The results showed that the resolns. (Re) of four nucleotides were of > 1.0, average yield was > 93%, purity of 5'-UMP was of about 80%, purity of three others were of > 95% when pH of solution was of 2.2, loaded amount of nucleotides was of 0.02 g/mL-resin, velocity of flow was of 0.5 m/h and ratio of height to diameter of exchange column was of 15 : 1.

L9 ANSWER 17 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 6
ACCESSION NUMBER: 2001:566276 CAPLUS
DOCUMENT NUMBER: 135:272063
TITLE: Analysis of 5'-nucleotide in mushroom stalk with high performance liquid chromatography/mass spectrometry
AUTHOR(S): Zou, Yaohong; Cao, Xuezeng; Wang, Xueying
CORPORATE SOURCE: Dep. Biol. and Chem., Changshu College, Changshu, 215500, Peop. Rep. China
SOURCE: Fenxi Huaxue (2001), 29(7), 790-792
CODEN: FHHHDT; ISSN: 0253-3820
PUBLISHER: Zhongguo Huaxuehui "Fenxi Huaxue" Bianji Weiyuanhui
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB A new HPLC-mass spectrometric method for the anal. of 5'-nucleotide in mushroom stalk was reported. 5'-Nucleotide were separated on a C18 column using a mobile phase containing 0.05% H3PO4 water-MeOH (95/5, volume/volume). The samples were quantified with an UV detector operated at 260 nm. The 5'-nucleotide in mushroom stalk were identified as 5'-guanosine monophosphate (5'-GMP) 5'-uridine monophosphate (5'-UMP), 5'-adenosine monophosphate (5'-AMP) and 5'-cytidine monophosphate (5'-CMP) by using HPLC and LC-MS. The contents of the 4 5'-nucleotides in mushroom stalk was determined by external standard method. Their recoveries were 98.9% for 5'-GMP, 95.1% for 5'-UMP, 94.1% for 5'-AMP, 101.4% for 5'-CMP and their detection limits were 2.8 mg/L for 5'-GMP, 2.7 mg/L for 5'-UMP, 3.5 mg/L for 5'-AMP, 4.3 mg/L for 5'-CMP.

L9 ANSWER 18 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 7

ACCESSION NUMBER: 2001:193746 BIOSIS
DOCUMENT NUMBER: PREV200100193746
TITLE: Use of nucleotides in weanling rats with diarrhea induced by a lactose overload: Effect on the evolution of diarrhea and weight and on the histopathology of intestine, liver and spleen.
AUTHOR(S): Norton, R. [Reprint author]; Leite, J.; Vieira, E.; Bambirra, E.; Moura, C.; Penna, G.; Penna, F.
CORPORATE SOURCE: Departamento de Pediatria Faculdade de Medicina, UFMG, Avenida Alfredo Balena, 190, 30130-100, Belo Horizonte, MG, Brazil
rock@medicina.ufmg.br
SOURCE: Brazilian Journal of Medical and Biological Research, (February, 2001) Vol. 34, No. 2, pp. 195-202. print.
CODEN: BJMRDK. ISSN: 0100-879X.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 20 Apr 2001
Last Updated on STN: 18 Feb 2002

AB Until recently, dietary sources of nucleotides were thought not to be essential for good nutrition. Certain states with higher metabolic demands may require larger amounts that cannot be provided by endogenous production. The objective of the present study was to determine the action of nucleotides on the recovery from lactose-induced diarrhea in weaned rats. Thirty-six weanling Fisher rats were divided into two groups. Group 1 received a standard diet and group 2 received a diet containing lactose in place of starch. On the 10th day, six animals per group were sacrificed for histopathological evaluation. The remaining animals were divided into two other subgroups, each with 6 animals, receiving a control diet, a control diet with nucleotides (0.05% adenosine monophosphate, 0.05% guanosine monophosphate, 0.05% cytidine monophosphate, 0.05% uridine monophosphate and 0.05% inosine monophosphate), a diet with lactose, and a diet with lactose and nucleotides. On the 32nd day of the experiment all animals were sacrificed. Animals with diarrhea weighed less than animals without diarrhea. The introduction of nucleotides did not lead to weight gain. Mean diet consumption was lower in the group that continued to ingest lactose, with the group receiving lactose plus nucleotides showing a lower mean consumption. Animals receiving lactose had inflammatory reaction and deposits of periodic acid-Schiff-positive material in intestinal, hepatic and splenic tissues. The introduction of nucleotides led to an improvement of the intestinal inflammatory reaction. In lactose-induced diarrhea, when the stimulus is maintained-lactose overload - the nucleotides have a limited action on the weight gain and on recovery of intestinal morphology, although they have a protective effect on hepatic injury and improve the inflammatory response.

L9 ANSWER 19 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 8

ACCESSION NUMBER: 1999:790693 CAPLUS
DOCUMENT NUMBER: 132:152081
TITLE: Mononucleotide gas-phase proton affinities as determined by the kinetic method
AUTHOR(S): Green-Church, K. B.; Limbach, P. A.
CORPORATE SOURCE: Department of Chemistry, Louisiana State University, Baton Rouge, LA, USA
SOURCE: Journal of the American Society for Mass Spectrometry (2000), 11(1), 24-32
CODEN: JAMSEF; ISSN: 1044-0305
PUBLISHER: Elsevier Science Inc.

DOCUMENT TYPE: Journal
LANGUAGE: English
AB The goal of this work is to determine the proton affinities of (deoxy)nucleoside 5'- and 3'-monophosphates (mononucleotides) using the kinetic method with fast atom bombardment mass spectrometry. The proton affinities of the (deoxy)nucleoside 5'- and 3'-monophosphates yielded the following trend: (deoxy)adenosine monophosphates > (deoxy)guanosine mono- phosphates > (deoxy)cytidine monophosphates >> deoxythymidine/uridine monophosphates. In all cases the proton affinity decreases or remains the same with the addition of the phosphate group from those values reported for nucleosides. The proton affinity is dependent on the location of the phosphate backbone (5'- vs. 3'-phosphates); the 3'-monophosphates have lower proton affinities than the 5'-monophosphates except for the thymidine/uridine monophosphates where the trend is reversed. Mol. modeling was utilized to determine if multiple protonation sites and intramol. hydrogen bond formation would influence the proton affinity measurements. Semiempirical calcns. of the proton affinities at various locations on each mononucleotide were performed and compared to the exptl. results. The possible influence of intramol. hydrogen bonding between the nucleobases and the phosphate group on the measured and calculated proton affinities is discussed.
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 20 OF 85 DISSABS COPYRIGHT (C) 2009 ProQuest Information and Learning Company; All Rights Reserved on STN
ACCESSION NUMBER: 2000:3582 DISSABS Order Number: AAI9934829
TITLE: MOLECULAR RECOGNITION OF NUCLEOTIDES IN MICELLES AND THE DEVELOPMENT AND EXPANSION OF A CHEMISTRY OUTREACH PROGRAM (TETRADECYLTRIMETHYLAMMONIUM BROMIDE)
AUTHOR: SCHECHINGER, LINDA SUE [PH.D.]; NOWICK, JAMES S. [adviser]
CORPORATE SOURCE: UNIVERSITY OF CALIFORNIA, IRVINE (0030)
SOURCE: Dissertation Abstracts International, (1999) Vol. 60, No. 6B, p. 2705. Order No.: AAI9934829. 292 pages.
DOCUMENT TYPE: Dissertation
FILE SEGMENT: DAI
LANGUAGE: English
AB I. To investigate the delivery of nucleotide-based drugs, we are studying molecular recognition of nucleotide derivatives in environments that are similar to cell membranes. The Nowick group previously discovered that membrane-like surfactant micelles tetradecyltrimethylammonium bromide (TTAB) micelle facilitate molecular of adenosine monophosphate (AMP) recognition. The micelles bind nucleotides by means of electrostatic interactions and hydrogen bonding. We observed binding by following 1H NMR chemical shift changes of unique hexylthymine protons upon addition of AMP.

Cationic micelles are required for binding. In surfactant-free or sodium dodecylsulfate solutions, no hydrogen bonding is observed. These observations suggest that the cationic surfactant headgroups bind the nucleotide phosphate group, while the intramicellar base binds the nucleotide base. The micellar system was optimized to enhance binding and selectivity for adenosine nucleotides.

The selectivity for adenosine and the number of phosphate groups attached to the adenosine were both investigated. Addition of cytidine, guanidine, or uridine monophosphates, results in no significant downfield shifting of the NH resonance. Selectivity for the phosphate is limited, since adenosine mono-, di-, and triphosphates all have similar binding constants.

We successfully achieved molecular recognition of adenosine nucleotides in micellar environments. There is significant difference in the binding interactions between the adenosine nucleotides and three other

natural nucleotides.

II. The UCI Chemistry Outreach Program (UCICOP) addresses the declining interest of the nations youth for science. UCICOP brings fun and exciting chemistry experiments to local high schools, to remind students that science is fun and has many practical uses. Volunteer students and alumni of UCI perform the demonstrations using scripts and material provided by UCICOP. The preparation of scripts and materials is done by two coordinators. These coordinators organize the program and provide continuity to the program. The success of UCICOP can be measured by the high praise and gratitude expressed by the teachers, students and volunteers.

L9 ANSWER 21 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 9

ACCESSION NUMBER: 2000:92291 BIOSIS
DOCUMENT NUMBER: PREV200000092291
TITLE: Nucleotide and polyamine levels in colostrum and mature milk in relation to maternal atopy and atopic development in the children.
AUTHOR(S): Duchen, K. [Reprint author]; Thorell, L.
CORPORATE SOURCE: Department of Paediatrics, Linkoping University Hospital, S-581 65, Linkoping, Sweden
SOURCE: Acta Paediatrica, (Dec., 1999) Vol. 88, No. 12, pp. 1338-1343. print.
ISSN: 0803-5253.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 10 Mar 2000
Last Updated on STN: 3 Jan 2002

AB The prophylactic benefit of breastfeeding against atopic disease is still controversial. It seems to be limited to infants with genetic propensities to allergy in combination with late solid food introduction. Lower levels of n-3 polyunsaturated fatty acids in human milk have been related to atopy in children, stressing a non-specific role of nutritional components in the development of atopy. Nucleotides and polyamines have been related to intestinal integrity and immune function in infancy. The main sources of these nutrients are human milk nucleotides and polyamines early in life. Our aim was to study the composition of nucleotides and polyamines in colostrum and mature milk from atopic and non-atopic mothers and the relationship to sensitization against egg, milk or cat in their children during the first year of life. The nucleotide/nucleoside and polyamine levels were measured by HPLC in colostrum and in milk at 3 mo of lactation from mothers of 21 atopic and 14 non-atopic children. Among the mothers, 10 were atopic and 25 non-atopic. The nucleotides cytidine monophosphate (CMP), uridine monophosphate (UMP), adenosine monophosphate (AMP) and guanosine monophosphate (GMP) and the nucleosides cytidine and uridine were detected in human milk. In colostrum, CMP dominated, and the levels increased in mature milk, while the levels of the other compounds remained constant. The nucleotide/nucleoside composition was similar in colostrum from all mothers independent of the development of sensitization in their babies, except for the higher cytidine levels in mature milk from atopic mothers of atopic babies, as compared to healthy mothers of atopic babies. The polyamine levels were similar in colostrum from atopic and non-atopic mothers. However, putrescine and spermine levels were lower in mature milk from atopic mothers than non-atopic mothers. No relationship was found between milk putrescine and spermine levels and development of atopy in the children. In conclusion, low levels of human milk putrescine and spermine seem to be related to maternal atopy.

L9 ANSWER 22 OF 85 Elsevier Biobase COPYRIGHT 2009 Elsevier Science B.V. on STN

ACCESSION NUMBER: 2000005660 ESBIOBASE
TITLE: Nucleotide and polyamine levels in colostrum and mature milk in relation to maternal atopy and atopic development in the children
AUTHOR(S): Duchen, K.; Thorell, L.
CORPORATE SOURCE: Duchen, K. (Division of Paediatrics, Dept. of Health and Environment, Linkoping University, Linkoping (SE)); Duchen, K. (Department of Paediatrics, Linkoping University Hospital, S-581 65 Linkoping (SE)); Thorell, L. (Arla R and D, Stockholm (SE))
SOURCE: Acta Paediatrica, International Journal of Paediatrics (1999) Volume 88, Number 12, pp. 1338-1343, 35 refs. CODEN: APAEEL ISSN: 0803-5253
COUNTRY OF PUBLICATION: Norway
DOCUMENT TYPE: Journal; Article
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 31 Jan 2009
Last updated on STN: 31 Jan 2009

AN 2000005660 ESBIOBASE
AB The prophylactic benefit of breastfeeding against atopic disease is still controversial. It seems to be limited to infants with genetic propensities to allergy in combination with late solid food introduction. Lower levels of n-3 polyunsaturated fatty acids in human milk have been related to atopy in children, stressing a non-specific role of nutritional components in the development of atopy. Nucleotides and polyamines have been related to intestinal integrity and immune function in infancy. The main sources of these nutrients are human milk nucleotides and polyamines early in life. Our aim was to study the composition of nucleotides and polyamines in colostrum and mature milk from atopic and non-atopic mothers and the relationship to sensitization against egg, milk or cat in their children during the first year of life. The nucleotide/nucleoside and polyamine levels were measured by HPLC in colostrum and in milk at 3 mo of lactation from mothers of 21 atopic and 14 non-atopic children. Among the mothers, 10 were atopic and 25 non-atopic. The nucleotides cytidine monophosphate (CMP), uridine monophosphate (UMP), adenosine monophosphate (AMP) and guanosine monophosphate (GMP) and the nucleosides cytidine and uridine were detected in human milk. In colostrum, CMP dominated, and the levels increased in mature milk, while the levels of the other compounds remained constant. The nucleotide/nucleoside composition was similar in colostrum from all mothers independent of the development of sensitization in their babies, except for the higher cytidine levels in mature milk from atopic mothers of atopic babies, as compared to healthy mothers of atopic babies. The polyamine levels were similar in colostrum from atopic and non-atopic mothers. However, putrescine and spermine levels were lower in mature milk from atopic mothers than non-atopic mothers. No relationship was found between milk putrescine and spermine levels and development of atopy in the children. In conclusion, low levels of human milk putrescine and spermine seem to be related to maternal atopy.

L9 ANSWER 23 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1998:38532 CAPLUS
DOCUMENT NUMBER: 128:101381
ORIGINAL REFERENCE NO.: 128:19857a,19860a
TITLE: Nucleic acid-related substance-containing nutrient compositions
INVENTOR(S): Nanitoku, Akima; Kanno, Takahiro; Yonekubo, Akinari; Kuwata, Tamotsu
PATENT ASSIGNEE(S): Meiji Milk Products, Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10004918	A	19980113	JP 1996-177226	19960619
JP 3576318	B2	20041013		

PRIORITY APPLN. INFO.: JP 1996-177226 19960619

AB The compns. having activities to increase lipids, proteins, cholesterol, and/or nucleic acids in biomembranes, contain nucleic acids, docosahexaenoic acid (I), arachidonic acid (II), and cholesterol (III) as active ingredients. Alternatively, the compns. contain cytidine monophosphate (CMP) 5-10, uridine monophosphate (UMP) 2-4, adenosine monophosphate (AMP) 0-4, guanosine monophosphate (GMP) 1-3, and/or inosine monophosphate (IMP) 2-4 mg (based on 100 g powders) and edible oils containing II 4.9-60, I 24.5-250, and III 56-90 mg (based on 100 g powders). The compns. are useful as foods, beverages, and medical prepns. for humans and animals. Rats were fed with a composition containing 0.07% II, 0.31% I, and III 12.0, CMP 6.01, UMP 3.85, AMP 0.21, GMP 1.55, and IMP 3.07 mg/100 g for 3 wk. II content in the phosphatidylcholine fraction of erythrocyte membrane of the rats was significantly higher than that of control groups fed without nucleic acids.

L9 ANSWER 24 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 10
ACCESSION NUMBER: 1997:307540 BIOSIS
DOCUMENT NUMBER: PREV199799615343
TITLE: The influence of dietary nucleotides on erythrocyte membrane fatty acids and plasma lipids in preterm infants.
AUTHOR(S): Axelsson, I. [Reprint author]; Flodmark, C. E.; Raiha, N.; Tacconi, M.; Visentin, M.; Minoli, I.; Moro, G.; Warm, A.
CORPORATE SOURCE: Dep. Pediatrics, Univ. Lund, Malmo Univ. Hosp., S 205 02 Malmo, Sweden
SOURCE: Acta Paediatrica, (1997) Vol. 86, No. 5, pp. 539-544. ISSN: 0803-5253.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 26 Jul 1997
Last Updated on STN: 26 Jul 1997

AB Objective: The objective of this study was to evaluate whether a regular formula for premature infants supplemented with nucleotides has any influence on plasma lipids and erythrocyte membrane fatty acids. Methods: Preterm infants fed either human milk supplemented with human milk protein (HM, n = 14), nucleotide-supplemented preterm formula (NF, n = 13), or a regular preterm formula (F, n = 13) were included in the study. The NF was supplemented with 18.2 mg cytidine monophosphate/l (CMP), 7.0 mg uridine monophosphate/l (UMP), 6.4 mg adenosine monophosphate/l (AMP), 3.0 mg inosine monophosphate/l (IMP) and 3.0 mg guanosine monophosphate/l (GMP). Results: There were significantly higher concentrations of triglycerides (TG) in infants fed NF compared to those fed F (191.42 +- 79.58 vs 108.21 +- 43.73, p lt 0.001, mean +- SD lipid concentrations, mg/100 ml plasma). Infants fed F had significantly lower concentrations of total cholesterol (94.34 +- 11.71 vs 115.69 +- 39.29, p lt 0.01) and TG in plasma (108.21 +- 43.73 vs 172.27 +- 68.19, p lt 0.001, mean +- SD lipid concentrations, mg/100 ml plasma) when compared to HM-fed infants. There were no significant differences in any of the erythrocyte membrane fatty acids and total long-chain polyunsaturated

fatty acids (LC-PUFA) between NF and F during the study period (6 weeks). Furthermore, total LC-PUFA and docosahexaenoic acid (DHA) concentrations in red blood cell were not significantly different when infants fed NF were compared to those fed HM. In contrast, however, infants fed F had significantly lower concentrations of total n-3 LC-PUFA (p lt 0.01) and DHA (p lt 0.01) than those found in HM-fed infants. Conclusions: These results do not suggest an effect of nucleotides on the red blood cell LC-PUFA profile in preterm infants. However, the nucleotides may increase the concentrations of triglycerides in plasma.

L9 ANSWER 25 OF 85 Elsevier Biobase COPYRIGHT 2009 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1997135832 ESBIOBASE
TITLE: The influence of dietary nucleotides on erythrocyte membrane fatty acids and plasma lipids in preterm infants
AUTHOR(S): Axelsson, I.; Flodmark, C.E.; Raiha, N.; Tacconi, M.; Visentin, M.; Minoli, I.; Moro, G.; Warm, A.
CORPORATE SOURCE: Axelsson, I.; Flodmark, C.E.; Raiha, N. (Department of Pediatrics, University of Lund, Malmo (SE)); Axelsson, I. (Department of Pediatrics, University of Lund, Malmo University Hospital, S 205 02 Malmo (SE)); Tacconi, M.; Visentin, M. (Inst. Rech. Farmacologiche Mario N., Milan (IT)); Minoli, I.; Moro, G.; Warm, A. (Division of Neonatology, Provincial Maternity Hospital, Milan (IT))
SOURCE: Acta Paediatrica, International Journal of Paediatrics (1997) Volume 86, Number 5, pp. 539-544, 29 refs.
CODEN: APAEEL ISSN: 0803-5253
COUNTRY OF PUBLICATION: Norway
DOCUMENT TYPE: Journal; Article
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 31 Jan 2009
Last updated on STN: 31 Jan 2009

AN 1997135832 ESBIOBASE

AB Objective: The objective of this study was to evaluate whether a regular formula for premature infants supplemented with nucleotides has any influence on plasma lipids and erythrocyte membrane fatty acids. Methods: Preterm infants fed either human milk supplemented with human milk protein (HM, n = 14), nucleotide-supplemented preterm formula (NF, n = 13), or a regular preterm formula (F, n = 13) were included in the study. The NF was supplemented with 18.2 mg cytidine monophosphate/I (CMP), 7.0 mg uridine monophosphate/I (UMP), 6.4mg adenosine monophosphate/I (AMP). 3.0 mg inosine monophosphate/I (IMP) and 3.0 mg guanosine monophosphate/I (GMP). Results: There were significantly higher concentrations of triglycerides (TG) in infants fed NF compared to those fed F (191.42 ± 79.58 vs 108.21 ± 43.73, p < 0.001, mean ± SD lipid concentrations, mg/100 ml plasma). Infants fed F had significantly lower concentrations of total cholesterol (94.34 ± 11.71 vs 115.69 ± 39.29, p < 0.01) and TG in plasma (108.21 ± 43.73 vs 172.27 ± 68.19, p < 0.001, mean ± SD lipid concentrations, mg/100 ml plasma) when compared to HM-fed infants. There were no significant differences in any of the erythrocyte membrane fatty acids and total long-chain polyunsaturated fatty acids (LC-PUFA) between NF and F during the study period (6 weeks). Furthermore, total LC-PUFA and docosahexaenoic acid (DHA) concentrations in red blood cell were not significantly different when infants fed NF were compared to those fed HM. In contrast, however, infants fed F had significantly lower concentrations of total n-3 LC-PUFA (p<0.01) and DHA (p<0.01) than those found in HM-fed infants. Conclusions: These results do not suggest an effect of nucleotides on the red blood cell LC-PUFA

profile in preterm infants. However, the nucleotides may increase the concentrations of triglycerides in plasma.

L9 ANSWER 26 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 11

ACCESSION NUMBER: 1994:431346 BIOSIS
DOCUMENT NUMBER: PREV199497444346
TITLE: Capillary electrophoretic separation of nucleotide isomers via complexation with cyclodextrin and borate.
AUTHOR(S): Tadey, Tanya; Purdy, William C. [Reprint author]
CORPORATE SOURCE: Dep. Chem., McGill Univ., 801 Sherbrooke St. West, Montreal, PQ H3A 2K6, Canada
SOURCE: Journal of Chromatography B Biomedical Applications, (1994) Vol. 657, No. 2, pp. 365-372.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 11 Oct 1994
Last Updated on STN: 12 Oct 1994

AB The electrophoretic behaviour of monophosphorylated nucleotide isomers can be manipulated using complex-forming reactions with beta-cyclodextrin (B-CD) and borate. Resolution of the 2'- and 3'-isomers of nucleotides is possible when the electrophoresis buffer contains 10 mM CD. The effect of beta-CD concentration on electrophoretic mobility is used to calculate the formation constant, K, of beta-CD-nucleotide complexes. The 3'-isomer of adenosine monophosphate (AMP) forms the strongest complex with beta-CD probably as a result of hydrogen bonding between the phosphate group of AMP and hydroxyls of beta-CD. In addition, complexation of 5'-nucleotides with borate increases the migration time window and leads to better separation. Complex-forming reactions of guanosine monophosphate and uridine monophosphate are shown to be strongly dependent on buffer pH. A mixture of 12 monophosphorylated nucleotides can be separated in less than 15 min using a buffer of 20 mM borate-10 mM beta-CD.

L9 ANSWER 27 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 12

ACCESSION NUMBER: 1992:76111 BIOSIS
DOCUMENT NUMBER: PREV199293044566; BA93:44566
TITLE: SPECTROSCOPIC STUDY ON INTERACTION OF NUCLEIC ACID BASE WITH TRYPTOPHAN-CONTAINING TRIPEPTIDES ACETYL-TRP-X-TRP-NHCH-3 X EQUALS GLY ASN ASP GLN AND GLU.
AUTHOR(S): KAFUKU Y [Reprint author]; MATSUI Y; OHTANI J; USAMI Y; UEDA H; DOI M; INOUE M; ISHIDA T
CORPORATE SOURCE: OSAKA UNIVERSITY OF PHARMACEUTICAL SCI, 2-10-65 KAWAI, MATSUBARA, OSAKA 580, JAPAN
SOURCE: Chemical and Pharmaceutical Bulletin (Tokyo), (1991) Vol. 39, No. 10, pp. 2487-2490.
CODEN: CPBTAL. ISSN: 0009-2363.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 2 Feb 1992
Last Updated on STN: 2 Feb 1992

AB As part of a series of peptides designed to have binding ability selective for each of the nucleic acid bases, five tripeptides consisting of N-acetyl-Trp-X-Trp-NHCH3 (X = Gly, Asn, Asp, Gln and Glu) were synthesized, and their abilities to form complexes with four different nucleotides were examined by the fluorescence and phase distribution methods. The association constants obtained indicated that, depending on the sort of X residue, the peptides showed a variation in their interaction with guanosine monophosphate (GMP), while no noticeable selectivity was observed for other nucleotides adenosine

monophosphate (AMP), uridine monophosphate (UMP) and cytidine monophosphate (CMP). The binding mode of N-acetyl-Trp-Asp-Trp-NHCH3 for the guanine base was further investigated using the proton nuclear magnetic resonance (1H-NMR) method. The mode was suggested to involve intimate cooperation of (1) the hydrogen bond formation between the carboxyl group of the Asp side chain and the guanine C2-amino group, and (2) the stacking interaction of the base with two terminal Trp residues of the peptide. Such interaction was strengthened by the protonation of the guanine base. A tentative binding mode is proposed based on these results.

L9 ANSWER 28 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 13

ACCESSION NUMBER: 1990:353294 BIOSIS
DOCUMENT NUMBER: PREV199090049873; BA90:49873
TITLE: NONRANDOMNESS IN PREBIOTIC PEPTIDE SYNTHESIS.
AUTHOR(S): TYAGI S [Reprint author]; PONNAMPERUMA C
CORPORATE SOURCE: LAB CHEM EVOLUTION, DEP CHEM, UNIV MARYLAND, COLLEGE PARK, MD 20742, USA
SOURCE: Journal of Molecular Evolution, (1990) Vol. 30, No. 5, pp. 391-399.
CODEN: JMEVAU. ISSN: 0022-2844.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 7 Aug 1990
Last Updated on STN: 7 Aug 1990

AB We have synthesized and studied the properties of phosphoanhydrides of alanine with guanosine monophosphate, uridine monophosphate, and adenosine monophosphate. This series of compounds allowed us to investigate the specificity of peptide bond formation in a reaction that could have taken place on the prebiotic earth. We asked whether the intrinsic reactivity of the amino acids, the nature of the nucleotide in the anhydride, or the complementary polynucleotide template influences the specificity of the peptide synthesis reaction. We observed that the differential reactivity of the amino acids results in nearest-neighbor preferences during the peptide synthesis, whereas the nature of the nucleotides and the presence of complementary polynucleotides had no influence on the specificity. These results suggest that some peptides would have been more abundant than others on the prebiotic earth and have implications for the study of the origins of the genetic code and protein synthesis.

L9 ANSWER 29 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 14

ACCESSION NUMBER: 1990:280042 BIOSIS
DOCUMENT NUMBER: PREV199090010888; BA90:10888
TITLE: KINETICS OF REACTIONS OF PYRIMIDINE NUCLEOSIDE 2' AND 3' MONOPHOSPHATES UNDER ACIDIC AND NEUTRAL CONDITIONS CONCURRENT PHOSPHATE MIGRATION DEPHOSPHORYLATION AND DEAMINATION.
AUTHOR(S): OIVANEN M [Reprint author]; LONNBERG H
CORPORATE SOURCE: DEP CHEM, UNIV TURKU, SF-20500 TURKU, FINLAND
SOURCE: Acta Chemica Scandinavica, (1990) Vol. 44, No. 3, pp. 239-242.
CODEN: ACHSE7. ISSN: 0904-213X.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 23 Jun 1990
Last Updated on STN: 24 Jun 1990

AB First-order rate constants for the following reactions of cytidine and

uridine monophosphates have been determined over the acidity range from pH 7 to H0 -0.7: (i) interconversion of the 2'- and 3'-monophosphates of cytidine and uridine, (ii) dephosphorylation of the 2'-, 3'- and 5'-monophosphates, and (iii) deamination of cytosine nucleotides to uracil nucleotides. Competition between these reactions under various conditions is discussed, and the data on phosphate migration and phosphoester hydrolysis are compared with those reported earlier for adenosine monophosphates.

L9 ANSWER 30 OF 85 DISSABS COPYRIGHT (C) 2009 ProQuest Information and Learning Company; All Rights Reserved on STN

ACCESSION NUMBER: 85:31269 DISSABS Order Number: AAR8613938
TITLE: PART I. NEW CHEMISTRY OF HETEROPOLY ANIONS IN NONPOLAR SOLVENTS. PART II. HETEROPOLY MOLYBDATE COMPLEXES OF SOME PHOSPHATE ESTERS AND NUCLEOTIDES (TUNGSTATES, POLYOXOACIDS, POLYANIONS, POLYTUNGSTATES)
AUTHOR: KATSOULIS, DIMITRIS ELIAS [PH.D.]
CORPORATE SOURCE: GEORGETOWN UNIVERSITY (0076)
SOURCE: Dissertation Abstracts International, (1985) Vol. 47, No. 4B, p. 1544. Order No.: AAR8613938. 348 pages.
DOCUMENT TYPE: Dissertation
FILE SEGMENT: DAI
LANGUAGE: English
ENTRY DATE: Entered STN: 19921118
Last Updated on STN: 19921118

AB In Part I, it is demonstrated that stoichiometric amounts of phase transfer agents (quaternary ammonium salts) are sufficient for the complete transfer of the heteropoly anions XW(,11)O(,39)Z(OH(,2))('m-) (X = B, Si, Ge, P, and Z = CO('II), Co('III), Cu('II), Mn('II), Mn('III)), P(,2)W(,17)O(,61)Z(OH(,2))('n-) (Z = Co('II), Mn('II)), P(,2)W(,18)O(,68)Co(,4)(OH(,2))('10-) and SiW(,9)O(,37)Co(,3)(OH(,2))(,3)('10-) into nonpolar solvents such as benzene and toluene.

Dehydration of the nonpolar solutions (ca. 10('-2) M in polyanion) by passage of dry Ar or N(,2), vacuum, or the use of drying agents results in the complete or partial removal of the water molecules coordinated to Z. The ease of dehydration depends upon both X and Z and also varies with the overall charge of the anion.

Spectroscopic studies show that ligands like pyridine or Cl('-) coordinate to the unsaturated sites, forming more stable complexes than in water. Gaseous SO(,2) binds irreversibly to the cobalt and copper sites (except for P(,2)W(,18)Co(,4)('10-) where reversible behavior was observed), and on the basis of IR diagnostic features and theoretical considerations an S-bonded complex is suggested.

The XW(,11)O(,39)Mn('6-) (X = Si, Ge), anions form reversible oxygen adducts below -35(DEGREES)C and room temperature respectively when dried solutions are exposed to molecular oxygen. Visible, and ESR spectroscopy, magnetic measurements, and spin trapping experiments suggest the formation of a mononuclear "superoxo"-type of adduct. Upon standing or at higher temperatures the corresponding Mn('III) complexes are produced. The relative stability of the oxygen complexes appears to be related to the redox potential of Mn(II) which in turn depends upon X(P, Si, Ge, B).

In Part II, heteropoly molybdate complexes of some monophosphates of biological significance (adenosine monophosphate, uridine monophosphate, flavin mononucleotide, (beta)-glycerophosphate) were prepared and characterized. Analytical, spectroscopic and electrochemical results suggest that the complexes adopt the (RPO(,3))(,2)MoO(,15)('4-) structure. The polyphosphates P(,2)O(,7)('4-), adenosine diphosphate, and adenosine triphosphate under analogous conditions do not form stable complexes, but are hydrolyzed to orthophosphate.

L9 ANSWER 31 OF 85 MEDLINE on STN
ACCESSION NUMBER: 1984271831 MEDLINE
DOCUMENT NUMBER: PubMed ID: 6462709
TITLE: The prebiotic chemistry of nucleotides.
AUTHOR: Ferris J P; Yanagawa H; Hagan W J Jr
SOURCE: Origins of life, (1984) Vol. 14, No. 1-4, pp. 99-106.
Journal code: 0420542. ISSN: 0302-1688.
Report No.: NASA-84271831.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, NON-P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Space Life Sciences
ENTRY MONTH: 198408
ENTRY DATE: Entered STN: 20 Mar 1990
Last Updated on STN: 20 Mar 1990
Entered Medline: 24 Aug 1984
AB Diiminosuccinonitrile (DISN), formed by the oxidation of diaminomaleonitrile (DAMN), has been investigated as a potential prebiotic phosphorylating agent. DISN effects the cyclization of 3'-adenosine monophosphate to adenosine 2', 3'-cyclic phosphate in up to 39% yield. The mechanism of this reaction was investigated. The DISN-mediated phosphorylation of uridine to uridine monophosphate does not proceed efficiently in aqueous solution. The reaction of DISN with uridine-5'-phosphate and uridine results in the formation of 2,2'-anhydronucleotides and 2,2'-anhydronucleosides respectively, and other reaction products resulting from an initial reaction at the 2'- and 3'- hydroxyl groups. The clay mineral catalysis of the cyclization of adenosine-3'-phosphate was investigated using homoionic montmorillonites.

L9 ANSWER 32 OF 85 EMBASE DUPLICATE 15
ACCESSION NUMBER: 1984006851 EMBASE
TITLE: The active site of lysosomal sphingomyelinase: Evidence for the involvement of hydrophobic and ionic groups.
AUTHOR: Callahan, J.W.; Jones, C.S.; Davidson, D.J.; Shankaran, P.
CORPORATE SOURCE: Hosp. Sick Child., Toronto, Ont. M5G 1X8, Canada.
SOURCE: Journal of Neuroscience Research, (1983) Vol. 10, No. 2, pp. 151-163.
ISSN: 0360-4012 CODEN: JNREDK
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical and Experimental Biochemistry
008 Neurology and Neurosurgery
LANGUAGE: English
ENTRY DATE: Entered STN: 10 Dec 1991
Last Updated on STN: 10 Dec 1991
AB The natural substrate for sphingomyelinase contains hydrophobic and polar moieties. In this study, we have employed pH rate studies and examined hydrophobic compounds and phosphorylated esters for their effect on sphingomyelinase activity in an attempt to determine some of the kinetic properties of this enzyme. Sphingomyelinase, purified from human placentae, undergoes noncompetitive inhibition by octylglucoside and Nonidet P-40, two nonionic detergents containing terminal octyl groups. The effect of these detergents at the hydrophobic binding site is somewhat different from that of Triton X-100, which contains an isooctyl terminal group, and this may serve to identify a structural basis for the effects. Sphingomyelinase activity is also modulated by several nucleotides. Inhibition by 5'-adenosine monophosphate (5'-AMP) is also noncompetitive. Other nucleotide monophosphates (such as 5'-uridine monophosphate (5'-UMP), 5'-cytidine

monophosphate (5'-CMP), 2'-adenosine monophosphate (2'-AMP), and 3'-adenosine monophosphate (3'-AMP) and phosphorylated intermediates (such as phosphorylcholine, phosphorylethanolamine and hexose phosphates) have a lower inhibitory effect. The data suggest that the inhibition by 5'-AMP involves the combined effect of the phosphate group and the purine ring, structural requirements which may also be satisfied by bis(4-methylumbelliferyl)phosphate, a synthetic enzyme substrate. Studies of pH rate indicate that the maximal velocity for the hydrolysis of sphingomyelin is independent of pH over the range 3.5-6.2 while the K(m) value shows a pH dependence. The K(m) value is lowest from pH 4.0-5.2 and rises at pH values outside this range. The log V(max)/K(m) and pK(m) relationships, when plotted as a function of pH, have been used to identify the dissociation constants for the binding of sphingomyelin by the enzyme. These occur at pK values of 4.1 and 5.5. The activity of sphingomyelinase is also reduced when the enzyme is photooxidized in the presence of methylene blue or rose bengal and carbamylated by diethylpyrocarbonate (DEPC). These results are interpreted to show that 1) the enzyme contains a hydrophobic binding site which involves linear aliphatic moieties containing at least eight carbon atoms; 2) two ionic groups are involved in formation of the enzyme substrate complex, one of which is presumed to be the carboxylate group of aspartate or glutamate (represented by pK 4.1) and the second may be the protonated imidazolium group of histidine (represented by pK 5.5); and 3) since the maximal velocity shows no pH dependence, the interactions involving the hydrophobic and ionic groups affect only the binding of the substrate to the enzyme and formation of the enzyme-substrate complex.

L9 ANSWER 33 OF 85 EMBASE

ACCESSION NUMBER: 1979153866 EMBASE
TITLE: The reaction of nucleotides with aqueous hypochlorous acid.
AUTHOR: Dennis Jr., W.H. (correspondence); Olivieri, V.P.; Kruse, C.W.
CORPORATE SOURCE: US Army Med. Bioengin. Res. Developm. Lab., Fort Detrick, Frederick, Md. 21701, United States.
SOURCE: Water Research, (1979) Vol. 13, No. 4, pp. 357-362.
Refs: 10
ISSN: 0043-1354 CODEN: WATRAG
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal
FILE SEGMENT: 046 Environmental Health and Pollution Control
LANGUAGE: English

AB It has been found that the rate of consumption of hypochlorous acid by the nucleotides cytidine monophosphate (CMP) and adenosine monophosphate (AMP) increases with decreasing pH. At pH 5.6, CMP and AMP are the primary consumers of free chlorine; at pH 7.6 guanosine monophosphate (GMP), as well as CMP and AMP, react readily with hypochlorous acid. At pH 10, the only consumer of hypochlorite is GMP. A parallel was found between the rate of inactivation of virus and the rate of consumption of free chlorine by two of the nucleotides; both the rate of virus inactivation and the rate of consumption of chlorine by AMP and CMP increase with decreasing pH. Under conditions of virus disinfection, uridine monophosphate (UMP) is quite unreactive with aqueous hypochlorous acid.

L9 ANSWER 34 OF 85 CAPLUS DUPLICATE 16

ACCESSION NUMBER: 1980:17869 CAPLUS
DOCUMENT NUMBER: 92:17869
ORIGINAL REFERENCE NO.: 92:3035a,3038a
TITLE: Kinetic and electrophoretic studies of human erythrocytes deficient in pyrimidine 5'-nucleotidase

AUTHOR(S): Shinohara, Kenji; Tanaka, Kouichi R.
CORPORATE SOURCE: Dep. Med., Harbor-UCLA Med. Cent., Torrance, CA, 90509, USA
SOURCE: Human Genetics (1979), 51(1), 107-11
CODEN: HUGEDQ; ISSN: 0340-6717
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The mutant enzyme of a patient with chronic hemolytic anemia and hereditary pyrimidine 5'-nucleotidase deficiency was analyzed biochem. Partially purified by DEAE-Sephadex chromatog. and concentrated by ultrafiltration, the enzyme had a Km for the substrate uridine monophosphate .apprx.4-fold above normal. Utilization of the substrate cytidine monophosphate was normal, whereas that of adenosine monophosphate was increased. The enzyme was heat stable; the pH optimum was acidic (≤pH 6.0). Electrophoretic migration rate of the enzyme was lower than that of normal enzyme.

L9 ANSWER 35 OF 85 EMBASE
ACCESSION NUMBER: 1976084873 EMBASE
TITLE: The stimulation of the phospholipase A2 acylation system of synaptic membranes of brain by cyclic nucleotides.
AUTHOR: Gullis, R.J.; Rowe, C.E.
CORPORATE SOURCE: Dept. Biochem., Univ. Birmingham, United Kingdom.
SOURCE: Biochemical Journal, (1975) Vol. 148, No. 3, pp. 567-581.
ISSN: 0264-6021 CODEN: BIJOAK
DOCUMENT TYPE: Journal
FILE SEGMENT: 029 Clinical and Experimental Biochemistry
037 Drug Literature Index
LANGUAGE: English

AB Hydrolysis of phosphatidylcholine by phospholipase A2 of synaptic membranes in Tris HCl buffer was stimulated by cyclic adenosine monophosphate (AMP), cyclic guanosine monophosphate, cyclic cytidine monophosphate, cyclic uridine monophosphate and adenosine (0.1 mM). In the presence of 1 mM NaF and cofactors, the same cyclic nucleotides and adenosine (10 μM) stimulated the incorporation of added oleate into the choline glycerophospholipids of synaptic membranes. Cyclic AMP and noradrenaline stimulated the incorporation of added oleate into position 2 of choline glycerophospholipid. Stimulation of net acylation was increased by preincubation in conditions which stimulated hydrolysis of phosphatidylcholine. Cyclic AMP only slightly stimulated the transfer of oleate from oleoyl CoA into choline glycerophospholipid. The optimum concentration of CaCl(2) for the stimulation of hydrolysis by phospholipase A2 by cyclic AMP was 1 μM. Stimulation of the incorporation of added oleate was maximal in the CaCl(2) concentration range 1 μM to 1 mM. MgCl(2) also enhanced stimulations, maximum effects being obtained with concentrations of 10 μM and 0.5 mM for hydrolysis by phospholipase A2 and incorporation of added oleate respectively. ATP enhanced the stimulation of incorporation of oleate but had no effect on the cyclic nucleotide stimulation of hydrolysis of added phosphatidylcholine by phospholipase A2. Adenosine, guanosine ADP and 5' AMP (all at 1 mM) inhibited the stimulation of incorporation of oleate by cyclic nucleotides and inhibited the transfer of oleate from oleoyl CoA to phospholipid. They did not inhibit the stimulation of hydrolysis of added phosphatidylcholine (by phospholipase A2) by cyclic nucleotides, but inhibited the stimulation by noradrenaline, acetylcholine, 5 hydroxytryptamine, dopamine (3,4 dihydroxyphenethylamine) and histamine. Preincubation of synaptic membranes in the water or buffer increased the net activity of phospholipase A2. Preincubation with a mixture of ATP and MgCl(2) increased the initial rate of acylation of membrane lipid.

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ACCESSION NUMBER: 1976016054 EMBASE
TITLE: Alterations in brain RNA metabolism following chronic ethanol ingestion.
AUTHOR: Tewari, S.; Fleming, E.W.; Noble, E.P.
CORPORATE SOURCE: Dept. Psychiat., Univ. California, Irvine, Calif. 92664, United States.
SOURCE: Journal of Neurochemistry, (1975) Vol. 24, No. 3, pp. 561-569.
ISSN: 0022-3042 CODEN: JONRA9
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical and Experimental Biochemistry
030 Clinical and Experimental Pharmacology
037 Drug Literature Index
008 Neurology and Neurosurgery
LANGUAGE: English

AB The in vivo labelling of various brain RNA fractions was found to be altered due to chronic ethanol ingestion by C57BL/6J mice. Ingestion of ethanol resulted in a marked decrease in the incorporation of intraventricularly injected [5 (3)H] orotic acid into tRNA, rRNA and polyribosomal RNA. The inhibition was more pronounced in the polyribosomal fraction than the ribosomal fraction. In the nucleus, a biphasic effect of ethanol was demonstrated in the nRNA fraction where increased incorporation of precursor label at early time points was followed by marked depression. Absence of a similar increase in the cytoplasmic RNA fractions is suggestive of a possible defect in the transport of RNA from nucleus to cytoplasm resulting in the accumulation of RNA in the nucleus. Ethanol ingestion had no effect on the synthesis of acid soluble nucleotides following the in vitro administration of [5 (3)H]orotic acid or [5 (3)H] uridine into the brain. Over 90% of the radioactivity in either 'control' or 'ethanol' brain could be recovered in the uridine monophosphate fraction with negligible conversion to quanosine monophosphate, adenosine monophosphate or cytidine monophosphate. The results suggest that the observed changes in RNA metabolism following chronic ethanol ingestion are due to an alteration in the transcription and/or processing of RNA in the nucleus rather than a function of reduced availability of nucleotides.

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ACCESSION NUMBER: 1976069857 EMBASE
TITLE: Utilization of L cell nucleoside triphosphates by Chlamydia psittaci for ribonucleic acid synthesis.
AUTHOR: Hatch, T.P.
CORPORATE SOURCE: Dept. Microbiol., Univ. Chicago, Ill. 60637, United States.
SOURCE: Journal of Bacteriology, (1975) Vol. 122, No. 2, pp. 393-400.
ISSN: 0021-9193 CODEN: JOBAAY
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 023 Nuclear Medicine
004 Microbiology: Bacteriology, Mycology, Parasitology and Virology
LANGUAGE: English

AB Long term (34)P labeled L cells were infected with the obligately intracellular parasite C. psittaci (strain 6 BC). At 20 hr postinfection, [(3)H]uridine was added, and the infected cells were sampled at intervals for incorporation of the labels into the uridine triphosphate (UTP) and cytidine triphosphate (CTP) pools of the host L cell and the uridine monophosphate (UMP) and cytidine monophosphate (CMP) in 16S ribosomal ribonucleic acid (RNA) of the parasite. The specific activity of the nucleotides was calculated from the ratio of (3)H

to (32)P counts in the nucleotides. The rate of approach to equilibrium labeling of UTP and CTP in L cell pools and UMP and CMP and in 16S RNA from the exogenous uridine label was determined from the increase in the ratios of the specific activities of CTP to UTP and CMP to UMP with time. The rate of approach to equilibrium CMP:UMP labeling of the 16S RNA of C. psittaci was consistent with the rate predicted from the kinetics of labelling of the CTP and UTP pools of the host L cell. In analogous experiments, the rate of approach to equilibrium guanosine monophosphate: adenosine monophosphate labeling of 16S RNA from an exogenous [(14)C]adenine label was consistent with the rate predicted from the kinetics of labeling of the purine nucleoside triphosphate pool of the host cell. These results support the concept that members of the genus Chlamydia owe their obligate intracellular mode of reproduction to a requirement for energy intermediates which is fulfilled by the host cell. In addition, evidence was obtained that the total acid soluble purine nucleoside triphosphate pool of L cells accurately represents the precursors of L cell 18S ribosomal RNA.

L9 ANSWER 38 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1975:493494 CAPLUS
DOCUMENT NUMBER: 83:93494
ORIGINAL REFERENCE NO.: 83:14673a,14676a
TITLE: Isolation of cyclic 3',5'-pyrimidine mononucleotides from bacterial culture fluids
AUTHOR(S): Ishiyama, Jiro
CORPORATE SOURCE: Cent. Res. Lab., Kikkoman Shoyu Co., Ltd., Noda, Japan
SOURCE: Biochemical and Biophysical Research Communications (1975), 65(1), 286-92
CODEN: BBRCA9; ISSN: 0006-291X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cyclic 3',5'-cytidine and 3',5'-uridine monophosphates were isolated from culture fluid of Corynebacterim murisepticum or Microbacterium species both of which excrete a large amount of cyclic 3',5'-adenosine monophosphate.

L9 ANSWER 39 OF 85 EMBASE COPYRIGHT (c) 2009 Elsevier B.V. All rights reserved on STN
ACCESSION NUMBER: 1975192120 EMBASE
TITLE: [(14)C] precursors incorporation into adenine and uridine nucleotides of the liver of some vertebrates.
AUTHOR: Zhivkov, V.; Geshanova, E.
CORPORATE SOURCE: Inst. Gen. Comp. Pathol., Bulgarian Acad. Sci., Sofia, Bulgaria.
SOURCE: Comparative Biochemistry and Physiology, (1975) Vol. 50, No. 1 B, pp. 165-167.
ISSN: 0010-406X CODEN: CBCPAI
DOCUMENT TYPE: Journal
FILE SEGMENT: 023 Nuclear Medicine
029 Clinical and Experimental Biochemistry
LANGUAGE: English
AB The rate of adenosine monophosphate (AMP) and uridine monophosphate (UMP) synthesis in the liver of rat, guinea pig, chicken and pigeon was investigated using different [(14)C] labelled compounds. The extent of [1,2 (14)C] glycine and [8 (14)C] adenine incorporation into adenine nucleotides was several times higher in pigeon liver than in chicken, rat and guinea pig liver. The rate of [2 (14)C] orotate incorporation into UMP of rat liver was eightfold higher than in guinea pig liver and about thirtyfold higher compared to that in chicken liver. Comparing these results with previous data about [(32)P] phosphate incorporation into liver AMP and UMP of the same species of vertebrates, it may be concluded that the labelling of

nucleoside monophosphates with [(32)P] phosphate could not be an indication of the rate of their synthesis.

L9 ANSWER 40 OF 85 EMBASE COPYRIGHT (c) 2009 Elsevier B.V. All rights reserved on STN
ACCESSION NUMBER: 1975018240 EMBASE
TITLE: A study of the deoxyuridine monophosphate pool during the normal embryogenesis of rats and during exposure to pyrimethamine ('chloridine') (Russian).
AUTHOR: Weisman, B.L.
CORPORATE SOURCE: Inst. Exp. Med., Acad. Med. Sci. USSR, Leningrad, USSR.
SOURCE: Ontogenez, (1974) Vol. 5, No. 3, pp. 299-302.
ISSN: 0475-1450 CODEN: ONGZAC
DOCUMENT TYPE: Journal
FILE SEGMENT: 001 Anatomy, Anthropology, Embryology and Histology
021 Developmental Biology and Teratology
029 Clinical and Experimental Biochemistry
030 Clinical and Experimental Pharmacology
037 Drug Literature Index
LANGUAGE: Russian
AB Using ion exchange and paper chromatography, the levels of deoxyuridinemonophosphate (d UMP), adenosine monophosphate, glucose monophosphate and uridine monophosphate were determined in 13-15 day old rat embryos. The effect of pyrimethamine, an inhibitor of dihydrofolate reductase on these levels was also studied. Only the d UMP concentration suffered marked increases on the 14th day of normal development in parallel with a decrease of thymidylate synthetase specific activity.

L9 ANSWER 41 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1972:4599 CAPLUS
DOCUMENT NUMBER: 76:4599
ORIGINAL REFERENCE NO.: 76:801a,804a
TITLE: Crosslinked amphoteric polyelectrolytes. Their interaction with electrolytes
AUTHOR(S): Pirogov, V. S.; Dmitrenko, L. V.; Kuznetsova, N. N.; Papukova, K. P.; Samsonov, G. V.
CORPORATE SOURCE: USSR
SOURCE: Sin., Strukt. Svoistva Polim., Tr. Nauch. Konf., 15th (1970), Meeting Date 1968, 255-7. Editor(s): Koton, M. M. "Nauka", Leningrad. Otd.: Leningrad, USSR.
CODEN: 23YAA3
DOCUMENT TYPE: Conference
LANGUAGE: Russian
AB The ion exchange capacity changes with pH were determined of the following polyampholytes: 2-methyl-5-vinylpyridine-triazine-methacrylic acid polycondensate [33435-82-4], 2-methyl-5-vinylpyridine-p-styrenesulfonic acid-triazine polycondensate [33435-83-5], trimethylphenoxyethylammonium chloride-formaldehyde-phenoxyacetic acid polycondensate [30586-68-6], and trimethylphenoxyethylammonium chloride-formaldehyde-phenoxyethylsulfonic acid polycondensate [33435-90-4]. The sorption of ions, e.g. lanthanum [7439-91-0] on these polyampholytes increases with the increase of the Na+ concentration in the solution, due to the increased dissociation of the ampholyte internal salt bonds. The pH at which adenosine monophosphate [61-19-8], adenosine diphosphate [58-64-0], and uridine monophosphate [58-97-9] are adsorbed on these amphoteric polyelectrolytes were determined

L9 ANSWER 42 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1962:431920 CAPLUS
DOCUMENT NUMBER: 57:31920

ORIGINAL REFERENCE NO.: 57:6407g-i
TITLE: Secretion of nucleotides by the yeast cell. III. Fractionation of secreted nucleotides by ion-exchange resin column chromatography
AUTHOR(S): Higuchi, Masataka; Uemura, Teijiro
CORPORATE SOURCE: Tohoku Univ., Sendai
SOURCE: Nippon Nogei Kagaku Kaishi (1969), 33, 826-31
CODEN: NNKKAA; ISSN: 0002-1407
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB I secreted by P32-labeled yeasts were fractionated as above. Eluates from Dowex 2 contained II, III, and polynucleotides (IV) in the proportion of 24.2, 37.2, and 30.6%, resp. Seven fractions were obtained by gradient elution and their peaks of optical d. agreed well with those of radioactivity, but not necessarily with height. Pyrimidine I, such as cytidine monophosphate (CMP) and uridine monophosphate (UMP), purine I, such as adenosine monophosphate (AMP) and guanosine monophosphate (GMP), and III were fractionated successively. Finally, IV were eluted with 4M NaCl-M NaOH. Molar ratios of whole I secreted by yeasts were AMP:GMP:UMP:CMP = 1.0:0.82:0.72:0.80. The ratio of purine bases to pyrimidine bases in II was 2.5. Incubated yeasts secreted very small amts. of amino acids and nicotinic acid.

L9 ANSWER 43 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1969:521283 CAPLUS
DOCUMENT NUMBER: 71:121283
ORIGINAL REFERENCE NO.: 71:22533a,22536a
TITLE: Effect of various 3',5'-cyclic nucleotides on gluconeogenesis and glycogenolysis in the perfused rat liver
AUTHOR(S): Conn, Harold O.; Kipnis, David M.
CORPORATE SOURCE: Sch. of Med., Washington Univ., St. Louis, MO, USA
SOURCE: Biochemical and Biophysical Research Communications (1969), 37(2), 319-26
CODEN: BBRCA9; ISSN: 0006-291X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The effects of various 3',5'-cyclic nucleotides on hepatic gluconeogenesis and glycogenolysis were examined in the isolated perfused rat liver. The 3 cyclic purine nucleotides, 3',5'-cyclic adenosine monophosphate (cAMP), 3',5'-cyclic guanine monophosphate (cGMP), and 3',5'-cyclic inosine monophosphate (cIMP) increased gluconeogenesis equally and to the same degree as maximal doses of glucagon. The pyrimidine nucleotides, 3',5'-cyclic uridine monophosphate (cUMP) and 3',5'-cyclic cytidine monophosphate (cCMP), caused modest increments in gluconeogenesis and 3',5'-cyclic thymidine monophosphate (cTMP) had no effect. A similar pattern of stimulation by the various cyclic nucleotides was observed on hepatic glycogenolysis.

L9 ANSWER 44 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1969:68678 CAPLUS
DOCUMENT NUMBER: 70:68678
ORIGINAL REFERENCE NO.: 70:12873a,12876a
TITLE: Synthesis of adenylyl-(3'->5')-uridine-2',3'-cyclophosphate
AUTHOR(S): Kavunenko, A. P.; Tikhomirova-Sidorova, N. S.
CORPORATE SOURCE: Inst. Vysokomol. Soedin., Leningrad, USSR
SOURCE: Zhurnal Obshchei Khimii (1968), 38(11), 2368-71
CODEN: ZOKHA4; ISSN: 0044-460X
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Very dry solution of N,-2',5'-tri-O-acetyladenosine 3'-phosphate pyridine salt and uridine 2',3'-cyclophosphate in pyridine was treated with dicyclo-hexylcarbodiimide in the dark in the absence of air 4 days to yield a syrup which, freed of the urea derivative and acetylated with Ac2O in the presence of Bu3N to destroy any residual pyrophosphate links, then treated with MeOH 15 min. gave, on evaporation, a pyridine solution of the condensation product which could be stored at about -12°. This, with aqueous NH4OH 2 hrs. at room temperature, lost all acetyl groups but preserved the cyclophosphate structure and after paper electrophoresis gave a solution containing adenylyl-(3' → 5')-uridine 2',3'-cyclophosphate and the corresponding 3'-phosphate in 15% and 3.7% yields, resp. Further hydrolysis with N HCl at room temperature 1 hr. gave uridine 2'(3')-phosphate from the cyclic ester while alkaline hydrolysis in 18 hrs. at 37° gave only uridine monophosphate and adenosine monophosphate in a nearly 1:1 ratio. Na uridylate and water-soluble carbodiimide (J. Sheehan and J. Hlavka, 1955) adjusted to pH 6.5 gave, after 1 hr., some 90% uridine 2',3'-cyclophosphate. Adenylyl-(3' → 5')-uridine 3'-phosphate similarly treated gave in 2 hrs. adenylyl-(3' → 5')-uridine 2',3'-cyclophosphate in 95% yield. Relative mobilities of the products on paper were tabulated for 3 solvent systems.

L9 ANSWER 45 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1969:453943 CAPLUS
DOCUMENT NUMBER: 71:53943
ORIGINAL REFERENCE NO.: 71:9961a,9964a
TITLE: Equilibrium principles of the sorption of nucleotides on anion- and cation-exchange resins
AUTHOR(S): Dmitrenko, L. V.; Pirogov, V. S.; Samsonov, G. V.
CORPORATE SOURCE: USSR
SOURCE: Termodin. Ionnogo Obmena (1968), 162-6. Editor(s): Bredeleva, A. Izd. "Nauka i Tekhnika": Minsk, USSR. CODEN: 20ZGA7
DOCUMENT TYPE: Conference
LANGUAGE: Russian
AB Sorption of adenosine monophosphate, adenosine triphosphate, and uridine monophosphate on different ion exchangers (Dowex 1- X2, Dowex-1, AB-18, KU-5A, KU-2, and SDW-3) was examined The equilibrium state was determined at different pH values and temps. The organic ion charge in the ion exchanger in comparison with charge in external solution sharply discharged at different pH. The increase of neg. charge of nucleotide mol. with solution pH increase led to an increase of sorption selectivity. The sorption capacity did not change within temperature range of 18-50°. The mechanism of nucleotide sorption is insignifically different from the sorption of inorg. ions. The anal. of sorption of partially deaminated resin showed that for a resin with a small sorption capacity the nucleotide sorption capacity approaches the full exchange capacity of the ion exchanger. Poly(sulfostyrene) resins had small sorption capacity and selectivity coeffs. while sulfonaphthalene resins had a high capacity and high selectivity coeffs. for all three nucleotides. This was attributed to dipole interaction.

L9 ANSWER 46 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 1967:108280 BIOSIS
DOCUMENT NUMBER: PREV19674800108282; BA48:108282
TITLE: Effect of light on content of acid soluble phosphate-containing compounds in the green alga Scenedesmus obliquus [Engl. sum.].
Original Title: Vliyanie sveta i temnoty na soderzhanie

kislotorastvorimykh fosfornykh soedinenii u zelenoi vodorosli Scenedesmus obliquus Kuts [Engl. sum.].
AUTHOR(S): PAKHOMOVA, M. V.; DARKANBAEVA, G. T.; ZAITSEVA, G. N.
CORPORATE SOURCE: Moscow State Univ., Moscow, USSR
SOURCE: BIOKHIMIYA, (1966) Vol. 31, No. 6, pp. 1237-1246.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
ENTRY DATE: Entered STN: May 2007
Last Updated on STN: May 2007

AB In algae growing in light, the content of acid-soluble polyphosphates and phosphates of sugars increased as compared with algae growing in the dark. In both cultures adenosine monophosphate, guanosine monophosphate and uridine triphosphate were identified. The cultures growing in the dark contained uridine diphosphate and adenosine triphosphate, while in the algae exposed to sight uridine monophosphate and adenosine diphosphate were found. Also, in the former urydilic derivatives prevailed quantitatively among the nucleotides studied, but in the latter, the guanilic derivatives were prevalent. S. obliquus accumulated in the dark about 10 times the amount of the nucleotide triphosphates found in algae exposed to light. Differences in amino-acid composition in peptide parts of the nucleotide-peptide complexes from both kinds of cultures also were recorded. ABSTRACT AUTHORS: Authors

L9 ANSWER 47 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 1966:45854 BIOSIS
DOCUMENT NUMBER: PREV19664700045856; BA47:45856
TITLE: Synthesis of nucleoside diphosphates and triphosphates by a salmon milt enzyme preparation.
AUTHOR(S): TARR, H. L. A.; ROY, JOAN
CORPORATE SOURCE: Fish. Res. Board Can., Vancouver, Brit. Columbia, Can.
SOURCE: CAN J BIO CHEM, (1966) Vol. 44, No. 2, pp. 197-207.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
ENTRY DATE: Entered STN: May 2007
Last Updated on STN: May 2007

AB A cell-free enzyme preparation capable of forming nucleoside (or deoxynucleoside) di- and tri-phosphates from the corresponding nucleoside monophosphates in the presence of adenosine triphosphate (ATP) was prepared from immature salmon milts. The preparation was not free from phosphatase activities. The corresponding nucleoside (or deoxynucleoside) di- and tri-phos-phates were readily formed from cytidine monophosphate, adenosine monophosphate, uridine monophosphate, and deoxyuridine monophosphate; guanosine monophosphate, deoxycytidine monophosphate, inosine monophosphate, and deoxyribosylthymine monophosphate were poorer substrates. The reaction required ATP. Guanosine triphosphate, uridine triphosphate, cytidine triphosphate, deoxyribosylthymine triphosphate, and inosine triphosphate could replace ATP, though they were in general less effective. With cytidine monophosphate as substrate, the formation of cytidine triphosphate was accelerated by Mg++, Ca++, Mn++, Co++, Ni++, and CN-, and was inhibited by Cu++, Ag+, Zn++, Hg++, F-, iodoacetate, p-hydroxymercuribenzoate, and ethylene-diaminetetraacetate. Neither glutathione nor 2-mercaptoethanol in concentrations of between 1 x 10-3 and 1 x 10-1 [image] protected the enzyme. The optimum pH was 7.5-8.0. The enzyme was very unstable, losing two-thirds of its activity in 1 hour at 30[degree]C. Under optimum conditions with cytidine monophosphate as substrate, 8.5 [mu]moles of cytidine triphosphate were formed per hour per milligram of protein nitrogen at 25[degree]C. ABSTRACT AUTHORS: Authors

L9 ANSWER 48 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 1967:858 BIOSIS
DOCUMENT NUMBER: PREV19674800000858; BA48:858
TITLE: Purification and properties of a pyrophosphatase from rat liver microsomes capable of catalyzing the hydrolysis of UDP-glucuronic acid.
AUTHOR(S): OGAWA, HARUKI; SAWADA, MIKIO; KAWADA, MINORU
CORPORATE SOURCE: Chugai Pharm. Co., Limited, Tokyo, Jap.
SOURCE: J BIOCHEM, (1966) Vol. 59, No. 2, pp. 126-134.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
ENTRY DATE: Entered STN: May 2007
Last Updated on STN: May 2007
AB An enzyme which catalyzes the hydrolysis of UDP [uridine diphosphate]-glucuronic acid to uridine monophosphate and D-glucuronic acid-1-phosphate was isolated and purified approximately 51-fold from the microsomes of rat liver. The enzyme preparation had a rather broad substrate specificity and acted on UDP-glucose, UDP-N-acetylglucosamine, reduced and oxidized nicotinamide adenine dinucleotide, nicotinamide adenine dinucleotide phosphate and other nucleotide derivatives. The hydrolysis of UDP-glucuronic acid by the enzyme was not activated in the presence of Mg++, Co++ or Mn++. Adenosine monophosphate and uridine monophosphate acted as strong inhibitors of the enzyme activity. ABSTRACT AUTHORS: From auth. summ

L9 ANSWER 49 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 1967:18990 BIOSIS
DOCUMENT NUMBER: PREV19674800018990; BA48:18990
TITLE: The effect of mitomycin C on the nucleotide pool of a growing culture of Escherichia coli.
AUTHOR(S): SMITH-KIELLAND, INGRID
CORPORATE SOURCE: Dep.Biochem., Univ. Oslo, Blindern, Norway
SOURCE: BIOCHIM BIOPHYS ACTA, (1966) Vol. 129, No. 1, pp. 116-122.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
ENTRY DATE: Entered STN: May 2007
Last Updated on STN: May 2007
AB In an exponentially growing culture of E. coli an examination of the nucleotide pool has been made 15, 30, 60 ancfW min. after the addition of mitomycin-C. After a 60-min. incubation with mitomycin-C, only small increases in the content of adenosine monophosphate (AMP), guanosine monophosphate (GMP) and uridine monophosphate (IMP) were found. After 90 min., the amounts of these three nucleotides had increased somewhat further as compared with the control. The cytidine monophosphate (CMP) content, however, was six times greater than the control after 60 and 90 min. This suggests that mitomycin-C affects some special function of the cytidine nucleotides. The "masked" and "unmasked" deoxyribotide pool showed negligible increase for the first 60 min. After 90 min. however, a moderate increase was found. The results support the view that the primary effect of mitomycin-C is not directed at degrading the nucelic-acids (thereby increasing the nucleotide pool). ABSTRACT AUTHORS: Author

L9 ANSWER 50 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 1966:91402 BIOSIS

DOCUMENT NUMBER: PREV19664700091405; BA47:91405
TITLE: Modified method for rapid determination of individual mononucleotides [in meat technology].
AUTHOR(S): MACY, ROBERT L.; BAILEY, MILTON E.
CORPORATE SOURCE: Univ. Missouri, Columbia, Missouri, USA
SOURCE: FOOD TECHNOL, (1966) Vol. 20, No. 3, pp. 114-115.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
ENTRY DATE: Entered STN: May 2007
Last Updated on STN: May 2007

AB The separation of acid-extractable adenosine monophosphate, uridine monophosphate, cytidine monophos-phate, inosine monophosphate and guanosine monophosphate from animal tissue on anion exchange resins is expediated when 2 chromatographic columns are employed simultaneously on 1 fraction collector. When the flow rates of effluents from both columns are equal, the nucleotide peaks can be monitored through 1 absorption cell at 254 mu. Four samples can be separated and analyzed quantitatively daily using only 1 fraction collector. ABSTRACT AUTHORS: Authors

L9 ANSWER 51 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 1966:17414 BIOSIS
DOCUMENT NUMBER: PREV19664700017414; BA47:17414
TITLE: Isolation of the mouse mammary tumor virus: Chemical and morphological studies.
AUTHOR(S): LYONS, MICHAEL J.; MOORE, DAN H.
CORPORATE SOURCE: Rockefeller Inst., New York, N. Y., USA
SOURCE: J NAT CANCER INST, (1965) Vol. 35, No. 3, pp. 549-565.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
ENTRY DATE: Entered STN: May 2007
Last Updated on STN: May 2007

AB The course of purification of the mammary tumor virus from milk of infective Columbia RIII strain mice by methods involving velocity gradient (zone) centrifugation in Ficoll, a chemically inert, high molecular weight, synthetic polysaccharide, is described. On a dry weight basis, an approximate 1,000-fold enrichment of virus was achieved. A fraction consisting of what appeared to be incomplete virus was separated in a zone above the main viral particle zone in the gradient tube. The viral particles had an average lipid content of 27 percent and a ribonucleic acid (RNA) content of 0.8 percent on a dry weight basis. Experiments pointed to the essential single-stranded character of the RNA, the mononucleotide composition of which, in moles percent, was: uridine monophosphate 28.9; guanosine monophosphate, 30.2; cytidine monophosphate, 21.6; adenosine monophosphate, 19.3. The value of 3.7 x 106 daltons was determined for the average RNA content of the virions. In certain morphological features and in aspects of their maturation, largely relating to the arrangement of the nucleic acid-containing structure within the particles, they differed significantly from the myxoviruses, a group which they otherwise resemble in general morphology and gross chemical composition. Substantial tumorigenicity for the mammary gland was found to reside in viral particle preparations, purified by isopycnic gradient centrifugation in rubidium chloride and gradient electrophoresis, methods previously described[long dash]the purity of which was attested by electron microscopic examination. ABSTRACT AUTHORS: Authors

L9 ANSWER 52 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN

ACCESSION NUMBER: 1966:32752 BIOSIS
DOCUMENT NUMBER: PREV19664700032754; BA47:32754
TITLE: Pattern of [P32] orthophosphate incorporation in vitro into ribonucleic acid nucleotides of Ehrlich ascites tumor cells.
AUTHOR(S): HADJIOLOV, A. A.; VENKOV, P. V.; DOLAPCHIEV, L. B.
CORPORATE SOURCE: Bulg Acad. Sci., Sofia, Bulgaria
SOURCE: BIOCHIM BIOPHYS ACTA, (1965) Vol. 108, No. 2, pp. 220-232.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
ENTRY DATE: Entered STN: May 2007
Last Updated on STN: May 2007

AB Rapidly labelled ribonucleic acid (RNA) from whole Ehrlich ascites tumor cells had the same mononucleotide composition irrespective of conditions used for [P32]orthophosphate incorporation (in-vivo or in-vitro). It corresponded in each case to 30-40% D-RNA [RNA similar in mononucleotide composition to deoxyribonucleic acid (DNA)] and 60-70% R-RNA (RNA similar in mononucleotide composition to ribosomal RNA). RNA extracted with phenol-sodium dodecyl sulfate at 65[degree] from nuclei of isolated ascites tumor cells showed 3 main peaks on agar gel electrophoresis, corresponding to ribosomal RNA (2 peaks) and soluble RNA. Polyvinyl sulfate was necessary to avoid partial degradation of RNA during its isolation and storage. Nuclear RNA isolated from tumor cells labelled in-vitro (30 min) with [P32]orthophosphate was hydrolyzed with 0.5 N KOH or with snake-venom phosphodiesterase (EC 3.1.4.1). The specific activities of the 4 nucleoside 2[image] (3[image])-monophosphates were of the same order. The specific activity of guanosine monophosphate (GMP) was on the average 12-fold lower than that of the other 3 nucleoside 5[image]-monophosphates. Nucleotide incorporation into rapidly labelled nuclear RNA was statistically random. The mononucleotide composition of this RNA corresponds to 50% D-RNA and 50% R-RNA. During the step-wise degradation of rapidly labelled nuclear RNA with snake-venom phosphodiesterase the specific activity of cytidine monophosphate (CMP) increased, while that of adenosine monophosphate (AMP) and uridine monophosphate (UMP) decreased. ABSTRACT AUTHORS: Authors

L9 ANSWER 53 OF 85 BIOSIS
ACCESSION NUMBER: 1965:44051 BIOSIS
DOCUMENT NUMBER: PREV19654600044057; BA46:44057
TITLE: Nucleic acid derivatives associated with group N streptococci. I. Cell-free fraction.
AUTHOR(S): CRATER, PATRICIA L.; MIKOLAJCIK, E. M.
CORPORATE SOURCE: Ohio State Univ., Columbus, Ohio, USA
SOURCE: J DAIRY SCI, (1965) Vol. 48, No. 1, pp. 1-7.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
ENTRY DATE: Entered STN: May 2007
Last Updated on STN: May 2007

AB The nature of the intracellular nucleotide content of 5 strains of Group-N streptococci and their relationship to acid production were studied by ion exchange and paper chromatography and ultraviolet absorption characteristics. The principal nucleoside and nucleotide compounds isolated and identified were: uridine, guanosine, nicotinamide-adenine-dinucleotide (NAD), adenosine-monophosphate (AMP), uridine-monophosphate (UMP), guanosine -monophosphate (GMP) and urindine-diphosphate (UDP). Several of the nucleotides contain an unidentified sugar derivative. Streptococcus lactis C2, the most rapid producer studied, exhibited the

most complex nucleotide pattern both qualitatively and quantitatively. Streptococcus lactis 11454, a slow acid and Streptococcus cremoris R1, a weak acid producer when cultured in partially defined broth, exhibited a build-up of UDP intermediates. Streptococcus lactis E, an intermediate acid producer, contained less than 1/2 the total amount of nucleic-acid derivatives of S. lactis C2, whereas Streptococcus diacetilactis DRC1, the poorest acid producer studied, was deficient in NAD and GMP derivatives. ABSTRACT AUTHORS: Authors

L9 ANSWER 54 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1965:30640 CAPLUS
DOCUMENT NUMBER: 62:30640
ORIGINAL REFERENCE NO.: 62:5469a-d
TITLE: Association of methyl acceptor ribonucleic acid with ribosomes
AUTHOR(S): Comb, Donald G.
CORPORATE SOURCE: Harvard Med. School, Boston, MA
SOURCE: Journal of Biological Chemistry (1964), 239(10), PC3597-PC3598
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The methylating enzyme (I) prepared from Escherichia coli, the Me-acceptor ribonucleic acid (II) prepared from the aquatic fungus, Blastocladiella emersonii, and S-adenosylmethionine-methyl-14C (as Me donor) were employed in determining the intracellular location and specificity of pattern of the base
methylation of the II, utilizing some modifications of the previously described exptl. system, cell fractionation, purification of RNA, and chromatography on methylated-albumin columns. About 90% of the II was attached to ribosomes from the cytoplasmic exts. Repeated chromatography of the RNA in the II peak yielded an RNA fraction which was the actual acceptor and contained the same amount of pseudouridine as transfer RNA (III) (i.e., 14% of the uridine) but no methylated bases, and did not form aminoacyl-RNA. Base analysis for isotope content of each 2',3'-ribonucleotide in II from the Me-accepting chromatogram peak gave a pattern of base methylation (Me-uridine monophosphate (IV) 98.4, -guanosine monophosphate (V) 1.3, -cytidine monophosphate (VI) + -adenosine monophosphate (VII) 0.3% of total radioactivity) which indicated that the I fraction catalyzed only the methylation of polynucleotide uracil (VIII) to thymine (identified by paper chromatography) when the RNA was free of the ribosome. When the II was methylated while it was attached to the ribosome, an entirely different pattern of base methylation was exhibited (IV 35.6, V 52.6, VI + VII 11.8%), somewhat similar to that obtained in vivo with III. From these different patterns, it was postulated that many of the VIII moieties in the polynucleotide chain are inaccessible to the I when the RNA is associated with the ribosome; the specificity of base methylation appeared, in part, to be dependent on this association No detectable methylation occurred when the ribosomes were incubated in the absence of the I.

L9 ANSWER 55 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:406030 CAPLUS
DOCUMENT NUMBER: 61:6030
ORIGINAL REFERENCE NO.: 61:993a-d
TITLE: The characteristic messenger RNA [ribonucleic acid] in the system inducing catechol oxidizing enzymes in Pseudomonas effusa
AUTHOR(S): Imamoto, Fumio; Yamagishi, Hideo; Nozu, Keiichi
CORPORATE SOURCE: Radiation Center, Osaka Prefect., Sakai, Japan
SOURCE: Journal of Biochemistry (Tokyo, Japan) (1964), 55(3), 303-14

CODEN: JOBIAO; ISSN: 0021-924X
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB cf. CA 58, 14468a. On P. effusa M-6 in the resting stage, catechol (I) oxidizing enzymes can be sequentially induced in deficient nutritive conditions. The characteristic messenger RNA (mRNA) was preferentially synthesized under these conditions. Since a correlation was observed between the appearance of the characteristic mRNA and I induction, it was probable that this mRNA was a genetic information carrier. The regulatory mechanism of transcription was followed by studying the behavior of mRNA synthesis during and after induction. Cells were washed twice with THAMMg++ (0.01M pH 7.3 THAM buffer with 0.005M MgCl2) and diluted to an absorbance of 0.75 at 550 mμ. An aliquot of 1.8 ml. was introduced into the main compartment of a Warburg vessel. One side arm contained 0.2 ml. of 0.5 + 10-2-2.5 + 10-2M I, 2.5 + 10-2M benzoate, 0.1M citrate, 0.1M succinate, or 0.1M glucose. The other side arm contained 100-300 μc. of carrierfree 32P. This induction system was aerobically incubated (30°) and O uptake measured. After a definite incubation period, 32P was mixed in and incubated for 3 min. The reaction was stopped with NAN3. RNA was prepared from the cells and subjected to sedimentation analysis. Base composition analysis was carried out using the isotope method, and 32P in the RNA was measured. Catechol oxygenase was measured by the amount of I consumed. Base composition of P. effusa bulk RNA (based on isotope) was: adenosine monophosphate 24.1, uridine monophosphate 23.7, cytidine monophosphate 21.9, and guanosine monophosphate 30.3%. Rate of synthesis of mRNA was several times higher during induced enzyme formation than in the presence of a C source not causing induction (such as citrate, succinate, glucose). The mRNA synthesized during induced enzyme formation had components which sedimented near the 16S ribosomal subunits. The mRNA synthesized in the presence of substrates not causing induction sedimented slower. Catechol oxygenase synthesis continued for several min. after synthesis of characteristic mRNA had ceased.

L9 ANSWER 56 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:470307 CAPLUS
DOCUMENT NUMBER: 61:70307
ORIGINAL REFERENCE NO.: 61:12258d-f
TITLE: Substrate specificity of potato adenosine triphosphate (ATP) diphosphohydrolase
AUTHOR(S): Khadzhiolov, A. A.
SOURCE: Doklady Bolgarskoi Akademii Nauk (1964), 17(3), 279-82
CODEN: DBANAD; ISSN: 0366-8681
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Observations indicated that potato ATP diphosphohydrolase (I) possessed a high activity. Under different concns. of I (0.01-0.05 mg. of protein/ml.) the degradation of ATP ran quant. to adenosine monophosphate, only the β and γ phosphates of ATP being hydrolyzed. No preferential hydrolysis of the γ phosphate group was established. Expts. using uridine 5'-triphosphate and cytidine 5'-triphosphate suggested that I showed no specificity with regard to ATP. Cytidine and uridine triphosphates were transformed into cytidine monophosphate and uridine monophosphate, resp. There was no deamination of the cytidine nucleotides and no uridine nucleotides were obtained. I can therefore be used for the selective hydrolysis of the β and γ phosphate groups of the natural nucleoside 5'-diphosphates and the nucleoside 5'-triphosphates, orthophosphate being exclusively released. It is suggested that I should be referred to the nonspecifically acting enzymes and should be called nucleoside 5'-triphosphate diphosphohydrolase.

L9 ANSWER 57 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:406449 CAPLUS
DOCUMENT NUMBER: 61:6449
ORIGINAL REFERENCE NO.: 61:1057h,1058a-c
TITLE: The influence of ribonucleic acid (RNA) and of ribonuclease on the content of ribose-containing compounds in animal blood
AUTHOR(S): Germanyuk, Ya. L.
CORPORATE SOURCE: Zoovet. Inst., Lvov
SOURCE: Ukrains'kii Biokhimichnii Zhurnal (1946-1977) (1964), 36(1), 59-66
CODEN: UBZHAZ; ISSN: 0372-3909
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Yeast RNA (20 mg./kg.) and ribonuclease (I) (2 mg./kg.) were injected into the blood of 1-1.5-month-old calves. Blood samples were drawn before the experiment, at 6-hr. periods after the injection, and on the 2nd and 5th days. Plasma I was estimated by author's method (CA 58, 3733a). RNA was estimated in 0.5 ml. of blood plasma by adding 0.5 ml. 0.1M acetate buffer pH 6.4 and 200 γ of I. After 1-hr. incubation at 38° the sample was deproteinized by uranyl acetate. The control was deproteinized immediately. In supernatants of both samples the ribose (II) of nonpptd. purine nucleotides was determined by orcinol and, by difference, the content of RNA. Purine nucleotides were estimated by orcinol in whole-blood Cl3CCOOH filtrates after precipitation with Hg acetate. II and II phosphates were determined by difference between total content of II-containing compds. and purine nucleotides. Adenosine triphosphate (ATP) with some adenosine diphosphate was determined as 7-min. labile P of the Hg acetate precipitate The activities of four 3'(2')-ribonucleotide phosphohydrolases (III), viz. hydrolases of 3'(2')-adenosine monophosphate, 3'(2')-guanosine monophosphate, 3'(2')-cytidine monophosphate, and 3'(2')uridine monophosphate, were determined in plasma and in erythrocytes. To 0.5 ml. of washed erythrocytes (or plasma) add 2 ml. (100 micromoles) pH 7.6, tris(hydroxymethyl)aminomethane buffer 0.2 ml. (40 micromoles) MgCl2, 1 ml. (2.74 micromoles) of the nucleotide (or H2O in the control), and incubate 2 hrs. at 38°. Administered RNA decreased blood concns. of II, II phosphates, and RNA, increased the content of purine nucleotides (including ATP) and of uric acid, and enhanced the activity of III. Administered I remained in blood in raised quantities for 6 hrs. without notable effect on II-containing compds. in the blood.

L9 ANSWER 58 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1963:410029 CAPLUS
DOCUMENT NUMBER: 59:10029
ORIGINAL REFERENCE NO.: 59:1877g-h,1878a
TITLE: The role of deoxyribonucleic acid (DNA) in ribonucleic acid (RNA) synthesis. VI. Specificity of action of actinomycin D
AUTHOR(S): Kahan, Eunice; Kahan, Fred M.; Hurwitz, Jerard
CORPORATE SOURCE: New York Univ. School of Med., New York, NY
SOURCE: Journal of Biological Chemistry (1963), 238, 2491-7
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB cf. CA 58, 8173h. Inhibition of RNA polymerase and DNA polymerase action by actinomycin D has been correlated with the ability of various DNA primers of these enzymes to bind the inhibitor. Only those DNA species containing deoxyguanosine monophosphate (I) were found to bind actinomycin and have their priming ability blocked. The base composition of RNA synthesized either in the presence or absence of actinomycin was generally

complementary to that of the primer. However, in reactions primed by DNA from Dictyostelium discoideum with a particularly low I content, there was a greater inhibition of incorporation into RNA of cytidine monophosphate and guanosine monophosphate than of uridine monophosphate and adenosine monophosphate. Furthermore, there was a selective inhibition of incorporation of nucleotides adjacent to cytidine monophosphate. RNA polymerase shows a greater sensitivity to actinomycin than does DNA polymerase, which causes denatured DNA to lose its residual helical structure. The specific inhibitory properties of actinomycin in vivo have been related to the sensitivity to this inhibitor in vitro of the enzymes which synthesize RNA, DNA, and protein.

L9 ANSWER 59 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:4374 CAPLUS
DOCUMENT NUMBER: 60:4374
ORIGINAL REFERENCE NO.: 60:805b-d
TITLE: Uridine-(5' → 3')-uridine 5'-pyrophosphate as substrate for polynucleotide phosphorylase
AUTHOR(S): Cramer, F.; Kuentzel, H.; Rittner, S.
CORPORATE SOURCE: Max-Planck-Ges., Goettingen, Germany
SOURCE: Angewandte Chemie (1963), 75(20), 981-2
CODEN: ANCEAD; ISSN: 0044-8249
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB In the crude extract of Azotobacter vinelandii, an enzyme, probably identical with nucleoside monophosphate kinase, is present which catalyzes the following reaction [pUpU = uridine-(5' → 3')-uridine 5'-phosphate and ppUpU = uridine-(5' → 3')-uridine 5'-pyrophosphate]: adenosine triphosphate (ATP) + pUpU .dblharw. adenosine diphosphate (ADP) + ppUpU. ADP and ppUpU were polymerized to polyadenyluridylic acid (I) by the polynucleotide phosphorylase (II) present in the crude extract in the presence of urea. In the presence of M urea the phosphorolytic cleavage of pUpU by II and thereby the incorporation of uridylic acid via uridine-diphosphate was inhibited; urea also inhibited the phosphorolysis of I. The structure of pUpU was proved by ribonuclease cleavage, whereby only uridine-3',5'-diphosphate and uridine were obtained. pUpU (3 micromoles), 3 micromoles ATP, 60 micromoles tris (hydroxymethyl)aminomethane buffer (pH 8.1), 6 micromoles $MgCl_2$, 300 micromoles urea, and 0.01 ml. crude extract (29 mg. protein/ml.)(final volume 0.3 ml.; 30°) were incubated 24 hrs., I was isolated, hydrolyzed by alkali (0.3M KOH, 37°, 20 hrs.), the hydrolyzate neutralized with $HClO_4$, and separated by paper chromatography to give adenosine monophosphate and uridine monophosphate; 0.4 micromole ADP and 0.22 micromole ppUpU were incorporated. In a control experiment without ATP, no cleavage products of pUpU were detected after 24 hrs.

L9 ANSWER 60 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:69857 CAPLUS
DOCUMENT NUMBER: 60:69857
ORIGINAL REFERENCE NO.: 60:12347a-b
TITLE: Separation of nucleotides by thin-layer chromatography
AUTHOR(S): Hashizume, Takeshi; Sasaki, Yukiko
CORPORATE SOURCE: Univ. Kyoto, Japan
SOURCE: Agricultural and Biological Chemistry (1963), 27(12), 881-2
CODEN: ABCHA6; ISSN: 0002-1369
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB A short communication. Nucleotides were separated on the formate form of diethylaminoethyl Sephadex chromato plate. The Rf values, when developed

with N formic acid, were 5'-cytidine monophosphate, 0.64; 3'-uridine monophosphate (UMP), 0.05; 5'-UMP, 0.03; UDP, 0.02; 3'-adenosine monophosphate (AMP), 0.53; 5'-AMP, 0.58; adenosine triphosphate, 0.02; 3'-guanosine monophosphate (GMP), 0.07; 5'-GMP, 0.08; 5'-inosine monophosphate, 0.03. Larger Rf values were obtained when 5 or 10N formic acid was used as the developing solvent.

L9 ANSWER 61 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:405290 CAPLUS
DOCUMENT NUMBER: 61:5290
ORIGINAL REFERENCE NO.: 61:868f-g
TITLE: The amino acid code and biosynthesis of silk
AUTHOR(S): Szafranski, P.; Lutowicz, J.; Puzynska, L.
CORPORATE SOURCE: Polish Acad. Sci., Warsaw
SOURCE: Life Sciences (1963), 2(11), 845-51
CODEN: LIFSAK; ISSN: 0024-3205
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Middle and posterior silkglands were removed from the silkworm, Bombyx mori, and ribonucleic acid (I) was isolated. The nucleotide composition of I was: cytidine monophosphate 20.5-24.5%, adenosine monophosphate 21.9-25.6%, guanosine monophosphate 30.1-34.3% and uridine monophosphate 19.9-23.3%. Addition of I from middle silkglands to a cell-free system from Escherichia coli yielded a protein with incorporation of serine, glycine, and glutamic acid at values predicted by the code of I.

L9 ANSWER 62 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 18
ACCESSION NUMBER: 1964:48220 CAPLUS
DOCUMENT NUMBER: 60:48220
ORIGINAL REFERENCE NO.: 60:8509g-h,8510a-b
TITLE: Free nucleotides in the rat brain after administration of pentazole and urethan
AUTHOR(S): Pechan, I.; Marko, P.
CORPORATE SOURCE: Comenius Univ., Bratislava, Czech.
SOURCE: Physiologia Bohemoslovenica (1956-65) (1963), 12(5), 458-62
CODEN: PHBOAP; ISSN: 0031-9309
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 130-150-g. rats were used. Pentazole (I) was administered intraperitoneally in doses of 60 mg./kg., 12 min. before killing. Urethan (II) was injected subcutaneously in a dose of 1 g./kg. 5 hrs. before killing the animal. The animals were sacrificed by plunging their heads in liquid air. The brains were pulverized in liquid air, and homogenized in 10% Cl3CCO2H in acetone at -70°. The suitably treated extract was adsorbed on a Dowex 50 (formate form) column, and eluted by linear gradients of formic acid or formate buffers. Cytidine monophosphate, nicotinamide-adenine dinucleotide (NAD), an unknown nucleotide, and adenosine monophosphate, were eluted by the gradient water-0.5M formic acid. Guanosine monophosphate, inosine monophosphate, and uridine monophosphate were eluted by the gradient 0.5M-1M formic acid. Adenosine diphosphate (ADP)-ribose, ADP, and flavine adenine dinucleotide were eluted by the gradient 1M-4M formic acid. Uridine diphosphoacetylglucosamine and uridine diphosphate glucose + guanosine triphosphate (GTP) were eluted by the gradient 4M formic acid-4M formic acid + 0.25M ammonium formate; adenosine triphosphate (ATP), uridine diphosphate (UDP), guanosine triphosphate (GTP), and uridine triphosphate were eluted by the gradient 4M formic acid + 0.2M ammonium formate-4M formic acid + 0.4M ammonium formate. II increased the amount of ATP, GTP, and UDP, and decreased the amount of the monophosphates, I caused the opposite effects; also, it caused a decrease in the NAD concentration The

unidentified fraction decreased after the administration of I, and increased after the administration of II.

L9 ANSWER 63 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:412560 CAPLUS
DOCUMENT NUMBER: 61:12560
ORIGINAL REFERENCE NO.: 61:2123c-d
TITLE: 5'-Nucleotidase of isolated hepatic cell membrane from rat liver
AUTHOR(S): Ku, Kuo-Yen; Wang, Chiu-Ta
CORPORATE SOURCE: Acad. Sinica, Shanghai, Peop. Rep. China
SOURCE: Shih Yen Sheng Wu Hsueh Pao (1963), 8(3-4), 400-7
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB The optimal conditions for determining the 5'-nucleotidase (I) activity were - adenosine monophosphate (II) 0.2 mole; tris-(hydroxymethyl)aminomethane (Tris)-maleate buffer (pH 7.6) 150 moles; cell membrane suspension, 0.2 ml.; and water to make 2.0 ml. The mixture was incubated at 37° for 30 min. I also split -uridine monophosphate but not 2'-3'-ribomononucleotides. Mn2+, Ca2+, and Mg2+ (1mM) activate, but ethylenediaminetetraacetate inhibits I activity, indicating that the bivalent cations are strongly bound to I. Zn2+ (1mM) almost completely inhibits the activity of I. Inorg. phosphate (20mM) does not affect the activity of I either in Tris-maleate or in Tris-HCl buffer (pH 7.6). The phosphate-noninhibiting I may originate in the cell membrane and pass into the microsome fraction during differential centrifugation. Deoxycholate is a stronger activator of I than is cholate. The effective concentration of cholate is close to that in the bile duct of the rat, and the bile may regulate the activity of I of liver cell membrane in vivo. The cell membrane contains no adenosine deaminase and little nonspecific phosphate.

L9 ANSWER 64 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:46723 CAPLUS
DOCUMENT NUMBER: 60:46723
ORIGINAL REFERENCE NO.: 60:8262b-d
TITLE: An enzymically synthesized RNA [ribonucleic acid] of alternating base sequence: physical and chemical characterization
AUTHOR(S): Chamberlin, Michael; Baldwin, Robert L.; Berg, Paul
CORPORATE SOURCE: Stanford Univ. School of Med., Palo Alto, CA
SOURCE: Journal of Molecular Biology (1963), 7(4), 334-9
CODEN: JMOBAK; ISSN: 0022-2836
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB The reaction catalyzed by the RNA polymerase from Escherichia coli was studied using deoxyadenylatedeoxythymidylate (dAT) copolymer as primer. The product of the reaction, riboadenylate-ribouridylate (rAU) copolymer, contains a regularly alterating sequence of adenosine monophosphate and uridine monophosphate residues. Measurements of sedimentation velocity, viscosity, optical rotation, and optical absorption changes on melting indicate that rAU can exist as a rigid, rod-like helix which is qual. similar to the dAT helix. However, the rAU helix shows a greater stability to thermal denaturation, a higher hyperchromic effect on denaturation, and a higher optical rotation. Attempts to form a hybrid mol. between rAU and deoxyadenylate-deoxybromouridylate copolymer, a dAT analog, were unsuccessful. Furthermore, no evidence of such a hybrid as a stable intermediate in the enzymic reaction could be obtained.

L9 ANSWER 65 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 19

ACCESSION NUMBER: 1964:23118 BIOSIS
DOCUMENT NUMBER: PREV19644500023122; BA45:23122
TITLE: Nucleotide composition of the ribonucleic acids of the bovine corneal epithelium.
AUTHOR(S): ZIGMAN, S.; LERMAN, S.; BURTON, M.
CORPORATE SOURCE: Univ. Rochester Sch. Med. and Dent., Rochester, N. Y., USA
SOURCE: EXPTL EYE RES, (1963) Vol. 2, No. 3, pp. 272-273.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
ENTRY DATE: Entered STN: May 2007
Last Updated on STN: May 2007

AB The nucleotide compositions of the ribonucleic acids (RNA's) extracted from the subcellular fractions of bovine corneal epithelium are reported. RNA was extracted from the insoluble, particulate, and soluble fractions with sodium dodecyl sulphate and hydrolyzed with dilute KOH. The nucleotides were separated by paper chromatography in isopropanol-HCl-water and were identified by their ultraviolet absorption spectra. The nucleotides were estimated from their absorption at the wavelengths of maximum absorption of ultraviolet light. All RNA fractions contained 30% cytidine monophosphate and guanosine monophosphate each and 20% uridine monophosphate and adenosine monophosphate each when expressed as moles of nucleotides per 100 moles of total recovered nucleotides. The ratio of purine to pyrimidine nucleotides was 1-5, a value similar to that found in the RNA of other bovine tissues. ABSTRACT AUTHORS: Authors

L9 ANSWER 66 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:25914 CAPLUS
DOCUMENT NUMBER: 60:25914
ORIGINAL REFERENCE NO.: 60:4618c-e
TITLE: The concentrations of ribonucleic acid (RNA) and metabolites in organs of warm-blooded animals following acute and chronic stress
AUTHOR(S): Thorn, W.; Busch, E. W.; Scheitza, H.; Jacobs, G.; Hartmann, H.; Wichert, P. v.
CORPORATE SOURCE: Univ. Cologne, Germany
SOURCE: Biochemische Zeitschrift (1963), 339(2), 112-24
CODEN: BIZEA2; ISSN: 0366-0753
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB cf. CA 56, 5051i. The RNA content of normal rabbit organs was: heart 2.5, brain 3.03, kidney 6.59, and liver 7.99 micromoles/g. wet weight The organs were homogenized with 0.8N HClO4, extracted with Me2CO, EtOH, and EtOHEt2O (3:1), and the residue hydrolyzed with 0.5N KOH. Electrophoresis showed that guanosine monophosphate (GMP) represented 32-5% of the total RNA, cytidine monophosphate 25-9%, and adenosine monophosphate and uridine monophosphate (UMP) 20%, each. At 10 min. after decapitation, the brain had lost about 20% of its RNA, chiefly the GMP and UMP moieties. Ischemia of the kidney, produced by clamping, resulted in an early decrease (5-20 min.) in the GMP and UMP moieties, but longer ischemia reduced all components so that in 3 hrs., 40% of the RNA was lost. In the liver, an increase in RNA started as early as 15 sec. after blood stoppage and reached a maximum value, 12.12 micromoles/g., at 2 min., and did not return to normal levels in 5 hrs. The increase was in all fractions. A similar increase was noted 48 hrs. after the ligature of the common bile duct of rabbits and dogs. Of the metabolites, adenosine tri phosphate increased from 2.80 to 3.08 micromoles/g. in 15 sec. of ischemia, but thereafter decreased to 0 at 1 hr. Adenosine diphosphate was elevated for 30 min. The lactate, α-glycerophosphate, and glucose concns. increased with the duration of the ischemia. 25 references.

L9 ANSWER 67 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:4250 CAPLUS
DOCUMENT NUMBER: 60:4250
ORIGINAL REFERENCE NO.: 60:788c-f
TITLE: DNA [deoxyribonucleic acid]-dependent incorporation of ribonucleotides into RNA [ribonucleic acid] in the chicken embryo
AUTHOR(S): Furth, J. J.; Loh, Patricia
CORPORATE SOURCE: Univ. of Pennsylvania, Philadelphia
SOURCE: Biochemical and Biophysical Research Communications (1963), 13(2), 100-5
CODEN: BBRCA9; ISSN: 0006-291X
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB cf. CA 58, 8173k. RNA polymerase (I) was prepared by mech. disrupting 12-13-day-old chick embryos in pH 7.50.05M tris(hydroxymethyl)aminomethane buffer, 0.005M MgCl2, and 0.0005M 2-mercaptoethanol, and centrifuging at 78,000 + g for 90 mill. I was precipitated from the supernatant by protamine sulfate, eluted with pH 6 0.25M succinate buffer, followed by 0-40% (NH4)2SO4 fractionation. With I, incorporation of uridine monophosphate (UMP) was stimulated approx. 7-fold by the addition of DNA. Omission of one of the nucleoside triphosphates or the addition of deoxyribonuclease, ribonuclease, or actinomycin D markedly reduced incorporation. α32P-uridine triphosphate (UTP) was used as substrate to determine the nature of the product of the reaction. The distribution of radioactivity [adenosine monophosphate (AMP), 23%; guanosine monophosphate (GMP), 22%; UMP, 33%; cytidine monophosphate (CMP), 22%] indicated that UMP was incorporated adjacent to all 4 ribonucleotides. With UTP-14C as substrate, 70%, of the radioactivity was recovered as UMP and 21% as uridine, indicating that UMP was predominately incorporated internally in the synthesized RNA. The DNA used in the reaction influenced the rates at which each nucleotide was incorporated. When DNA isolated from calf thymus or chick embryo was present, the (A + T)/(C + G) ratio was higher than when DNA of Micrococcus lysodeikticus was present. When the deoxy(adenosine-thymidine) copolymer was used as primer, incorporation of AMP and UMP was significantly increased while the incorporation of CMP and GMP was unaffected. These results showed that a soluble I isolated from chicken embryos could be partially freed of DNA active as primer.

L9 ANSWER 68 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:413689 CAPLUS
DOCUMENT NUMBER: 61:13689
ORIGINAL REFERENCE NO.: 61:2308b-d
TITLE: Effect of bacterial infection on acid-soluble nucleotides in mouse liver
AUTHOR(S): Akaishi, Kyoji
CORPORATE SOURCE: Univ. Kyoto
SOURCE: Annales Paediatrici Japonici (1963), 9(4), 1-12,69-72
CODEN: SHKIAH; ISSN: 0003-4495
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB The effect of nucleotide dietary supplementation to mice infected with hemolytic streptococci was studied. Uridine monophosphate and adenosine monophosphate enhanced the resistance of mice to bacterial infection, while cytidine monophosphate and guanosine monophosphate had no effects. Change of P compound contents in organs of mice were examined after bacterial infection. All P compds. in the brain remained unchanged. In the liver and the kidney deoxyribonucleic acid and ribonucleic acid were resp. increased at 24 and 48 hrs. after infection. Acid-soluble P and lipid P decreased in

kidney. Acid-soluble nucleotides in liver after bacterial infection were analyzed by column chromatography and an increase in nucleoside triphosphates and a decrease in nucleoside monophosphate were observed at 24 hrs. after infection. This seemed to be the make-up of the energy metabolism control of the total body. These changes recovered to the levels before infection 144 hrs. after infection.

L9 ANSWER 69 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1962:458949 CAPLUS
DOCUMENT NUMBER: 57:58949
ORIGINAL REFERENCE NO.: 57:11751f-i
TITLE: Acid-soluble nucleotides in human liver
AUTHOR(S): O'Donnell, James F.; Schiff, Leon; Piller, Marian
CORPORATE SOURCE: Univ. of Cincinnati, Cincinnati, OH
SOURCE: Journal of Laboratory and Clinical Medicine (1962), 59, 963-9
CODEN: JLCMAK; ISSN: 0022-2143
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Ion-exchange column chromatography was applied to the acid-soluble fraction of human livers obtained by surgical biopsy of 26 patients with and without liver diseases. The peaks obtained corresponded in order to hypoxanthine, xanthosine, uracil, diphosphopyridine nucleotide, cytosine monophosphate, adenosine monophosphate, guanosine monophosphate, uridine monophosphate, adenosine diphosphate, guanosine diphosphate, uridine x, nridine diphosphate (I), adenosine triphosphate (II), guanosine triphosphate, and uridine triphosphate. The identity of uridine x was not definitely established but it was possibly a carbohydrate derivative of I. In 13 eases of liver disease (cirrhosis, hepatitis, fatty liver, carcinoma, and hepatoma), the common characteristic feature was a decrease in the amount of II. However, in 4 cases of extrahepatic obstructive jaundice with bile stasis, the II levels resembled those in 9 normal livers. In 2 cases of surgery for nonhepatic conditions, the anesthesia increased II in the livers. Since the chief energy source for metabolic transformations in the liver comes from the hydrolysis of the terminal high-energy phosphate bonds of II, a lowering of the II in most forms of liver disease is of considerable importance in the impairment of metabolism. 19 references

L9 ANSWER 70 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1963:47795 CAPLUS
DOCUMENT NUMBER: 58:47795
ORIGINAL REFERENCE NO.: 58:8170c-d
TITLE: Determination of nucleotide sequences in soluble ribonucleic acid. II. Determination of nucleotide sequences in oligonucleotides-derived from the acceptor end of pyrophosphorolyzed soluble RNA
AUTHOR(S): Herbert, Edward; Wilson, Carolyn W.
CORPORATE SOURCE: Massachusetts Inst. of Technol., Cambridge
SOURCE: Biochimica et Biophysica Acta, Specialized Section on Nucleic Acids and Related Subjects (1962), 61, 762-74
CODEN: BBASB7; ISSN: 0926-6550
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Liver and yeast soluble RNA subjected to pyrophosphorolysis and reconstitution with CMP-P32 was heterogeneous with respect to nucleotides adjacent to the pCpCpA terminus (C = cytidine, A = adenosine, p = phosphoryl). Counting terminal adenosine monophosphate (AMP) as position 1, the distribution of nucleotides in position 4 in the reconstituted liver and yeast soluble RNA prepns. was: AMP, 55-60%; guanosine monophosphate, 20-5%; and uridine monophosphate, 10-20%. About 80% of these chains would have a pyrimidine nucleotide in

position 5. This distribution is like that of Escherichia coli soluble RNA. There are at least 4 different classes of chains with AMP in position 4, and at least 4 different classes of chains with guanylic acid in position 4. A method was devised to isolate oligonucleotide fragments up to 8 or 9 nucleotides long from the amino acid acceptor end of soluble RNA chains, as well as one to analyze nucleotide sequences in fragments 4 and 5 nucleotides long.

L9 ANSWER 71 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1962:471104 CAPLUS
DOCUMENT NUMBER: 57:71104
ORIGINAL REFERENCE NO.: 57:14185d-f
TITLE: Protein, nucleotide, and ribonucleic acid metabolism in corn during germination under water stress
AUTHOR(S): West, S. H.
CORPORATE SOURCE: U.S. Dept. Agr., Gainesville, FL
SOURCE: Plant Physiology (1962), 37, 565-71
CODEN: PLPHAY; ISSN: 0032-0889
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Seedlings were grown in the dark in glass chambers with the roots exposed to water stress equivalent to 0.02 (control), 4.9, 9.8, and 14.7 atmospheric pressure but with the aerial parts exposed to saturated air. During 6 days of growth both fresh and dry wts. were reduced as the water stress increased. Also with increased stress protein and nucleotides were reduced, but ribonucleic acid (I) accumulated. There was evidence that the reduced growth was due to shift of adenosine triphosphate to guanosine triphosphate. The I from seedlings under stress had a higher ratio of guanosine and uridine monophosphates to cytidine and adenosine monophosphates.

L9 ANSWER 72 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1962:412494 CAPLUS
DOCUMENT NUMBER: 57:12494
ORIGINAL REFERENCE NO.: 57:2590b-d
TITLE: Carbohydrates and nucleotides in the red alga Porphyra perforata. II. Separation and identification of nucleotides
AUTHOR(S): Su, Chong-Ching; Hassid, W. Z.
CORPORATE SOURCE: Univ. of California, Berkeley, CA, USA
SOURCE: Biochemistry (1962), 1(3), 474-80
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB On chromatographic separation on ion-exchange resin and on paper of compounds present in the ethanolic extract of the alga, adenosine monophosphate, adenosine diphosphate, uridine monophosphate, uridine diphosphate (UDP), guanosine monophosphate, guanosine diphosphate (GDP), inosine monophosphate, inosine diphosphate, diphosphopyridine nucleotide, triphosphopyridine nucleotide, UDP-D-glucose, UDP-D-galactose, UDP-glucuronic acid, GDP-D-mannose, and GDP-L-galactose were isolated and characterized. A new nucleotide that appears to be adenosine 3',5'-pyrophosphate was also isolated. It is suggested that GDP-L-galactose is formed from GDP-D-mannose by a mechanism similar to that involved in the GDP-D-mannose-GDP-L-fucose transformation; GDP-L-galactose serves as the glycosyl donor for the L-galactose component in polysaccharide synthesis, and 6-sulfation of the galactosyl residue is the key intermediate step in the modification of the D- and L-galactosyl residues of the polysaccharide by different modes of etherification.

L9 ANSWER 73 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1962:452081 CAPLUS
DOCUMENT NUMBER: 57:52081
ORIGINAL REFERENCE NO.: 57:10400g-i
TITLE: Acid-soluble nucleotides of milk. I. Quantitative and qualitative differences of nucleotides constituents in human and cow milk
AUTHOR(S): Kobata, Akira; Suzuoki, Jiro; Kida, Makoto
CORPORATE SOURCE: Takeda Chem. Ind., Osaka
SOURCE: Journal of Biochemistry (Tokyo, Japan) (1962), 51, 277-87
CODEN: JOBIAO; ISSN: 0021-924X
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB The acid (0.5N HClO4)-soluble ribonucleotides of milk have been analyzed by Dowex X-1 (formate form) column chromatography by gradient elution with increasing concentration of formate. Cow milk is rich in orotic acid (I), and contains moderate amts. of cytidine diphosphoto choline (II), 5'-cytidine monophosphate (III), and 3',5'-cyclic adenosine monophosphate (IV). Cow colostrum gives 13 nucleotides as follows: I, II, III, IV, uridine diphosphate hexose (V), 5'-uridine monophosphate (VI), uridine diphosphate glucuronic acid (VII), guanosine diphosphate (VIII), guanosine diphosphate fucose (IX), guanosine diphosphate mannose (X), 5'-adenosine monophosphate (XI), 5'-guanosine monophosphate (XII), and uridine diphosphate (XIII). Human milk and colostrum are shown to contain I-VIII, X-XIII, uridine diphosphate Nacetylhexosamine, and 3'-uridine monophosphate, but they contain no IX.

L9 ANSWER 74 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:470770 CAPLUS
DOCUMENT NUMBER: 61:70770
ORIGINAL REFERENCE NO.: 61:12341g-h,12342g-h
TITLE: Phosphodiesterases produced by microorganisms. I. Method for the selection of the microorganisms possessing 5'-phosphodiesterases
AUTHOR(S): Sugimoto, Hiroshi; Iwata, Takashi; Ishiyama, Jiro; Yokotsuka, Tamotsu
CORPORATE SOURCE: Noda Soy Sauce Co., Ltd., Noda, Japan
SOURCE: Nippon Nogei Kagaku Kaishi (1962), 36(3), 277-81
CODEN: NNKKAA; ISSN: 0002-1407
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB The activities of 5'-phosphodiesterases in the culture filtrates from 3000 strains of molds and Streptomyces were investigated by the following method. The culture filtrate was incubated with ribonucleic acid, fractionated with simplified Le Page (Manometric Techniques and Tissue Metabolism, 1951, p. 185) method, and then purified by the use of ion exchange resin IR-120 in order to remove concomitant cations, bases, and nucleosides almost completely. Adenosine monophosphate , guanosine monophosphate, cytidine monophosphate, and uridine monophosphate were separated from their 2'- and 3'-isomers by paper chromatography with Markham's developer, saturated (NH4)2SO4 solution -M NaOAc-iso-PrOH (80:20:2) and Magasanik's developer, isobutyric acid-0.5 N NH4OH (10:6) (pH 3.6). Detection of the spots separated with the former developer was made by ultraviolet irradiation, and that with the latter developer was made by ultraviolet irradiation color reactions with ammonium molybdate, and by oxidation with 1% Na metaperiodate followed by bleaching with SO2 and then by spraying with Schiff reagent. Thus, 7 strains of mold and 7 strains of Streptomyces from soil were found to have strong 5'-phosphodiesterase activities.

L9 ANSWER 75 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1961:131713 CAPLUS
DOCUMENT NUMBER: 55:131713
ORIGINAL REFERENCE NO.: 55:24874c-g
TITLE: Purification and properties of orotidylate decarboxylases from yeast and rat liver
AUTHOR(S): Creasey, W. A.; Handschumacher, R. E.
CORPORATE SOURCE: Yale Univ.
SOURCE: Journal of Biological Chemistry (1961), 236, 2058-63
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB cf. following abstract Orotidylate decarboxylase was partially purified from brewers' yeast and rat liver. The activity of dialyzed prepns. of either enzyme was not enhanced by the addition of either Mg or Mn, and 0.001M ethylenediaminetetraacetic acid did not inhibit. Semicarbazide, CuSO4, BaCl2, NaN3, NaF, and HONH2 did not inhibit. The 2 enzymes differ greatly in their sensitivity to SH compds.; that from yeast was inhibited 100% by 3 + 10-4M p-chloromercuribenzoate, that from liver was unaffected. Yeast enzyme was inhibited 81% by 10-4M N-ethylmaleimide; that from liver was inhibited 6% by 10-3M N-ethylmaleimide. Enzymic activity was not stimulated by cysteine, glutathione, pyridoxal phosphate, or thiamine pyrophosphate. The pH optimum of the yeast enzyme was about 6; that of the liver was about 7.5. The pH-stability and pH-activity curves were roughly parallel. Km for oro-tidylate with the liver enzyme was 4.5 + 10-6M; that for the liver enzyme was 7-8 + 10-6M. Reversibility of the decarboxylation could not be demonstrated. The yeast enzyme is inhibited competitively by uridine monophosphate (UMP), cytidine monophosphate (CMP), adenosine monophosphate (AMP), and guanidine monophosphate (GMP). The corresponding deoxyribonucleotides were inactive. The liver enzyme was inhibited by UMP, by CMP at a much higher concentration, and not by AMP and GMP. The enzymes were used to prepare uracil-5-H3, UMP-5-H3, and UMP-6-H3. The preparation of uridine nucleotides which are specifically labeled in either position 5 or 6 with T establishes certain aspects of the mechanism of the decarboxylation, and also provides useful substrates for study of the mechanism of formation of thymidine 5'-phosphate and 5-ribosyl uracil derivs. from uracil nucleotides.

L9 ANSWER 76 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1961:138459 CAPLUS
DOCUMENT NUMBER: 55:138459
ORIGINAL REFERENCE NO.: 55:26177d-g
TITLE: Detection and clinical significance of free nucleotides in human organ extracts. I. Determination in normal human liver
AUTHOR(S): Papenberg, Klaus
CORPORATE SOURCE: Med. Univ-Klin., Marburg a. d. Lahn, Germany
SOURCE: Klin Wochschr. (1961), 39, 739-47
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB cf. CA 55, 21216i. Free nucleotides and other P-containing metabolites were estimated by ion-exchange chromatog. in puncture biopsy material from normal livers. A comparison of the results from use of these samples (approx. 25 mg. liver) with those from larger liver samples obtained during laparotomy and immediately frozen in liquid air showed a close correspondence except for pyridine nucleotides, which were lower in the puncture biopsies. Nucleotide concns. were generally lower in the liver of a child as compared with adult liver. The mean concns. in 6 livers of human adults and of rat livers, as 10-9 moles/g. fresh weight, were: adenosine monophosphate 609, -; ADP 1115, 1220; ATP 1423, 2600; guanosine monophosphate 166, 292; guanosine diphosphate 231, 213; guanosine

triphosphate + uridine triphosphate 259, 619; uridine monophosphate 427 (from laparotomy), -; uridine diphosphoglucuronic acid 577, 424; uridine diphospho-N-acetylglucosamine 237, 444; uridine diphosphoglucose + -galactose 619, 577; cytidine monophosphate 138, 82; inosine monophosphate 185 (from laparotomy), -; NAD (DPN) 363 (888 laparotomy), 486; reduced DPN 165 (laparotomy), -; NADP (TPN) 58 (136 laparotomy), 57; reduced TPN 231 (247), 214; α-glycerophosphate 309, 632; hexose 6-phosphate 571, 428; RNA P 18,800, 14,600; DNA P 4870, 4700; and pyrophosphate 71, 95.

L9 ANSWER 77 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1961:145788 CAPLUS
DOCUMENT NUMBER: 55:145788
ORIGINAL REFERENCE NO.: 55:27670a-c
TITLE: Acid-soluble nucleotides during early embryonic development of the sea urchin (Paracentrotus lividus)
AUTHOR(S): Nilsson, Roy
CORPORATE SOURCE: Univ. Lund, Swed.
SOURCE: Acts Chem. Scand. (1961), 15, 583-91
DOCUMENT TYPE: Journal
LANGUAGE: English
AB CCl3CO2H exts. from unfertilized eggs and from different stages during the early development were analyzed for nucleotides and for inorg. (I), acid-labile (II), and acid-stable phosphates (III). Fertilization was followed by a decrease in I and an increase in II and III. II later showed cyclic variations during the 1st 5 divisions with an increase in concentration during the early part of mitosis and a fall during the latter part. I and III varied inversely with II so as to maintain a constant total phosphate content/embryo. Total nucleotide concentration did not vary appreciably at early stages, but 20 hrs. after fertilization there was a marked decrease. Variations in individual nucleotides were most marked after fertilization, when decreases in guanosine and adenosine triphosphates occurred, and around the 16-32-cell stages when decreases in all triphosphate compds. occurred. Uridine monophosphate showed rhythmic variations with the highest concentration in the unfertilized egg, the 4-cell and 32-cell stages. Adenosine monophosphate increased from about the 32-cell stage to a figure at 8 hrs. roughly twice that of the unfertilized egg.

L9 ANSWER 78 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1962:34115 CAPLUS
DOCUMENT NUMBER: 56:34115
ORIGINAL REFERENCE NO.: 56:6489b-f
TITLE: Outflux of inorganic and organic phosphate during membrane depolarization of excitable tissues
AUTHOR(S): Abood, L. G.; Koketsu, K.; Koyama, I.
CORPORATE SOURCE: Univ. of Illinois, Chicago
SOURCE: Nature (London, United Kingdom) (1961), 191, 395-6
CODEN: NATUAS; ISSN: 0028-0836
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Isolated frog sartorius muscle was immersed in frog Ringer solution containing P32 (carrier-free orthophosphate, 25 μc./ml.) for 2 hrs. at 25°, washed in Ringer solution for 20 sec., and the initial soaking procedure continued for 2 hrs. during which the muscles were transferred every 20 min. into 10 ml. phosphate-free Ringer solution Control muscles were then placed in 2 ml. Ringer solution (112 mM NaCl, 2 mM KCl, 1.8 mM CaCl2, and 2 mM NaHCO3) and the exptl. muscles in Ca-free Ringer solution (112 mM NaCl, 2 mM KCl, 2 mM NaHCO3, and 4 mM ethylenediaminetetraacetic acid) for 1 hr. For stimulation expts., the test muscles were immersed in Ringer solution for

40 min. while supramaximal elec. stimulation (1/3 sec. pulses) was applied. Unilateral pairs of sciatic-spinal root nerve prepns. were isolated from a bullfrog. The ventral and dorsal nerve roots were soaked in Ringer solution containing 50 μc./ml. orthophosphate-P32 for 2 hrs., treated like the muscle, stimulated (50 pulses/sec.), and the recording of the action potential carried on for 40 min. The final external solns. were separated on a Dowex anion exchange column. In a Ca-free solution containing ethylenediaminetetraacetic acid there was an increase in all the phosphates examined (inorg. phosphate, phosphocreatine, adenosine triphosphate, adenosine diphosphate, adenosine monophosphate, cytidine monophosphate, and uridine monophosphate). The increase in specific activity was greatest for inorg. phosphate and phosphocreatine. In elec. stimulated muscle, there was a 500% increase in inorg. phosphate, 100% in phosphocreatine, and 150% in adenosine triphosphate. Other nucleotides showed a slight increase on stimulation, but were only present in trace amts. Frog spinal nerves exposed to Ca-free ethylenediaminetetraacetic acid solns. had a 200% increase in inorg. phosphate, phosphocreatine, and adenosine triphosphate but the change in specific activity was insignificant. A 50% increase in the phosphorylated intermediates was observed following elec. stimulation of frog nerves.

L9 ANSWER 79 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1963:55047 CAPLUS
DOCUMENT NUMBER: 58:55047
ORIGINAL REFERENCE NO.: 58:9451b-c
TITLE: Biosynthesis of mucopolysaccharides in hen oviduct
AUTHOR(S): Suzuki, Sakaru
CORPORATE SOURCE: Univ. Nagoya
SOURCE: Koso Kagaku Shinpojumu (1961), 15, 351-6, discussion 356-7
CODEN: KKSHAL; ISSN: 0452-6236
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB cf. CA 54, 10024a; 57, 9019d. Nucleotides (I) in hen oviduct were analyzed in order to find some relation between the site of mucopolysaccharide biosynthesis and the composition of I present there. The I in each segment of the duct were fractionated with chromatography on Dowex 1; cytidine diphosphate (I) choline, I-ethanolamine, adenosine monophosphate, uridine monophosphate, guanosine diphosphate mannose, uridine diphosphate (II) glucose, II-acetylglucosamine, and II-acetylgalactosamine were found. In addition, 2 unusual I were found and their structures studied. The unusual I were localized within the 2-cm. segment of oviduct termed the isthmus. Results were presented which support the following structures for these compds.: uridine diphosphoacetylglucosamine 6-phosphogalactopyranoside and uridine diphosphoacetylgalactosamine 4-sulfate. The significance of these observations in the formation mechanism of the egg membrane was discussed.

L9 ANSWER 80 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1961:113675 CAPLUS
DOCUMENT NUMBER: 55:113675
ORIGINAL REFERENCE NO.: 55:21397c-e
TITLE: Nucleoside mono- and diphosphate kinases of Ascaris lumbricoides
AUTHOR(S): Entner, Nathan; Gonzalez, Celia
CORPORATE SOURCE: New York Univ., New York
SOURCE: Biochimica et Biophysica Acta (1961), 47, 52-60
CODEN: BBACAQ; ISSN: 0006-3002
DOCUMENT TYPE: Journal
LANGUAGE: English

AB With partially purified enzyme prepns. from the reproductive tract it was possible to demonstrate nucleoside monophosphokinases specific for each base moiety. The guanosine and adenosine monophosphate kinases were separated from each other, and both were obtained completely free of cytidine and uridine monophosphate kinases. Studies of the sugar moieties suggested the absence of sep. enzymes for the ribo- and deoxyribonucleotides, but the kinases for the purine nucleoside monophosphates were significantly more active towards the ribotides than towards the deoxyribotides. Further evidence for the same enzyme catalyzing the phosphorylation of guanosine and deoxyguanosine monophosphates was obtained in expts. in which on heating an enzyme fraction at 50° there occurred a parallel increase in activity after 1 min. and a parallel decrease in activity after further heating.

L9 ANSWER 81 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1960:86821 CAPLUS
DOCUMENT NUMBER: 54:86821
ORIGINAL REFERENCE NO.: 54:16525b-d
TITLE: The influence of streptomycin (SM) on the metabolism of acid-soluble nucleotides and other phosphorus compounds of Mycobacterium avium
AUTHOR(S): Niitani, Hisanobu
CORPORATE SOURCE: Nagoya Univ. Med. School
SOURCE: Nagoya Journal of Medical Science (1960), 22, 363-74
CODEN: NJMSAG; ISSN: 0027-7622
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB To determination the influence of SM on individual P compds. M. avium was incubated 1st with and without 1000 γ/ml. SM, then with P32-phosphate. After incubation, the labeled nucleotides and other P compds. extracted from the bacteria in the acid-soluble fraction were separated chromatographically, by using a gradient system, increasing the concentration of the eluent gradually. Hexose-, pyro-, and inorg. phosphate, and 8 nucleotides (cytidine monophosphate, adenosine monophosphate, guanosine monophosphate, uridine monophosphate, adenosine diphosphate, guanosine diphosphate, uridine diphosphate, adenosine triphosphate) were isolated. Chromatographic analysis showed no differences between SM-sensitive and SM-resistant strains, but when the former was incubated with SM, the incorporation of phosphate P32 into each nucleotide was activated, and its sp. activity increased. Incorporation of P32 into hexose phosphate was not affected by SM.

L9 ANSWER 82 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1961:33789 CAPLUS
DOCUMENT NUMBER: 55:33789
ORIGINAL REFERENCE NO.: 55:6640b-c
TITLE: Base composition of ribonucleic acid from rat mammary gland during pregnancy and late lactation
AUTHOR(S): Wang, D. Y.; Slater, T. F.; Greenbaum, A. L.
CORPORATE SOURCE: Univ. Coll., London
SOURCE: Nature (London, United Kingdom) (1960), 188, 320-1
CODEN: NATUAS; ISSN: 0028-0836
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB The base composition of rat mammary gland ribonucleic acid (RNA) was not found to change during lactation. Values for moles of nucleotide/100 moles RNA were: cytidine monophosphate 27-8, adenosine monophosphate 19-20, uridine monophosphate 15-16, and guanosine monophosphate 36-37. The purine/pyrimidine ratio was 1.34, and 6-keto groups/6 amino groups was 1.1.

L9 ANSWER 83 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:11759 CAPLUS
DOCUMENT NUMBER: 60:11759
ORIGINAL REFERENCE NO.: 60:2126g-h
TITLE: The acid-soluble fractions of rat liver
AUTHOR(S): Terada, Shinmichi
CORPORATE SOURCE: Univ. Tokyo, Japan
SOURCE: Seikagaku (1959), 31, 795-802
From: CZ 1960(35), 11726.
CODEN: SEIKAQ; ISSN: 0037-1017
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB A 0.6N HClO4 extract of albino rat liver was chromatographed on Dowex-1 (formate). The following substances were detected in the ultraviolet spectra: diphosphopyridine nucleotide, adenosine monophosphate, guanosine monophosphate, cytidine diphosphate + inosine monophosphate, uridine monophosphate, adenosine di-phosphate, uridine diphosphate-acetylglucoseamine, uridine di-phosphate-glucose, uridine diphosphate glucuronic acid, uridine diphosphate, adenosine triphosphate, guanosine triphosphate, and uridine triphosphate. By further fractionation (Dowex 50) and chromatography on paper, glucose 6-phosphate, L-α-glycerophosphate, phosphorylcholine, and a glutamic acid-containing P compound were detected.

L9 ANSWER 84 OF 85 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 1960:4811 BIOSIS
DOCUMENT NUMBER: PREV19603500004813; BA35:4813
TITLE: Studies on phosphorus metabolism of Mycobacterium avium. Studies on ion exchange chromatography of the acid soluble fraction.
AUTHOR(S): SUMITA, MOTOAKI
CORPORATE SOURCE: Nagoya U. Sch. Med., Japan
SOURCE: NAGOYA JOUR MED SCI, (1958) Vol. 21, No. 3, pp. 205-221.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
ENTRY DATE: Entered STN: May 2007
Last Updated on STN: May 2007
AB The acid soluble fraction of the Takeo strain of M. avium was separated by means of ion exchange resin chromatography. Mononucleotides are separable with Dowex-1 (X-10). With the HCOOH system elution occurs in the order of cytidine monophosphate (CMP), adenosine monophosphate (AMP), guanosine monophosphate (GMP) and uridine monophosphate (UMP), but with the HCOONH4 system the order was CMP, UMP, AMP and GMP. Recovery was good with both systems. In the acid soluble fraction of the trichloracetic acid extract there were recognized various nucleotides besides CMP, AMP, GMP, cytidine diphosphate and adenosine triphosphate. IRA-410 was as satisfactory as Dowex-1 for the separation of nucleotides. ABSTRACT AUTHORS: Auth. concl

L9 ANSWER 85 OF 85 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1958:78756 CAPLUS
DOCUMENT NUMBER: 52:78756
ORIGINAL REFERENCE NO.: 52:14010g-i
TITLE: Acid-soluble nucleotides of the earthworm (Lumbricus terrestris)
AUTHOR(S): Nilsson, Roy
CORPORATE SOURCE: Univ. Lund, Swed.
SOURCE: Acta Chemica Scandinavica (1957), 11, 1003-12
CODEN: ACHSE7; ISSN: 0904-213X

DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Earthworms were dipped into alc. at -60°, gutted, and the muscle homogenized, extracted with 5% trichloroacetic acid, and the nucleotide purified by the Norite method. Chromotog. and anal. methods showed the presence of the following in the Norite-purified exts.: adenosine monophosphate 20.6, ADP 53.2, ATP 108.0, adenosine diphosphoribose 4.4, guanosine monophosphate 2.8, guanosine diphosphate 3.4, guanosine triphosphate 8.0, inosine monophosphate 2.5, uridine monophosphate 2.5, uridine diphosphate 8.0, uridine triphosphate 3.6, and cytidine triphosphate 2.5 μmoles/100 g. muscle. In the crude extract NAD was identified, and derivs. of cytidine monophosphate and uridine diphosphate with ninhydrin-pos. components were found, but not completely characterized.

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